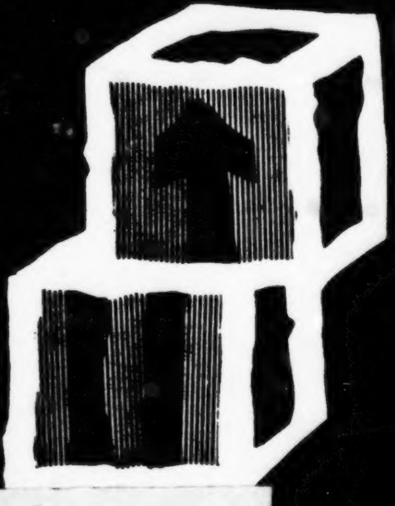
C 43/3

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Office of Human Development Services
Administration for Children, Youth and Families
Head Start Bureau

Final Report

The Impact of Head Start on Children, Families and Communities:

Head Start Synthesis Project



Prepared for the Head Start Bureau
Administration for Children, Youth and Families
Office of Human Development Services
U.S. Department of Health and Human Services

Contract No. 105-81-C-026

THE IMPACT OF HEAD START ON CHILDREN, FAMILIES AND COMMUNITIES

Final Report of the Head Start Evaluation, Synthesis and Utilization Project

NEWARK PUBLIC LIBRARY
NOV 18 1985
U. S. GOVT. PUBS.
DEPOSITORY 376

Authors:

Ruth Hubbell McKey, Ph.D.
Larry Condelli, Ph.D.
Harriet Ganson, M.S.
Barbara J. Barrett, M.A.
Catherine McConkey
Margaret C. Plantz, Ph.D.

With Significant Contributions by
Allen N. Smith
Government Project Officer

Project Director:
Sherrie S. Aitken, D.P.A.

CSR, Incorporated
Washington, D.C.

June, 1985

DHHS Publication No. (OHDS) 85-31193

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

This document was prepared pursuant to U.S. Department of Health and Human Services Contract Number 105-81-C-026. The statements and conclusions herein are those of CSR, Incorporated, and do not necessarily reflect the views of the sponsoring agency.

Foreword

The Head Start program is entering its twentieth year of existence. During that time, great strides have been made to shape it into a dynamic and comprehensive program. Children who have been touched by Head Start are stronger physically and mentally and much better prepared to cope with their environment. Parents feel better about themselves, and many have raised their personal aspirations and the aspirations of their children as a direct result of participation in the program. Communities also have been affected significantly by the presence of Head Start in terms of improved educational, health and social services.

These are some of the many findings that appear in the final report of the Head Start Evaluation, Synthesis and Utilization Project. This report represents one of the most definitive and comprehensive statements of Head Start impact ever published. It certainly will be a valuable resource for policy analysts and program managers, as well as for the general early childhood development and research communities.

In spite of the many successes of Head Start reflected in this report, the report also provides us with insights into areas where further improvements can be made. These must be pursued during the next several years if children and parents are to realize maximum benefits from the program. Some of these improvements include more effective planning of educational activities in the classroom to assure that each child is provided with individual experiences appropriate to her or his developmental level; a closer partnership between parents and teachers in the development of their children; more emphasis on school readiness skills; and closer linkages between Head Start and the elementary school system to assure long-term continuation of the growth that children demonstrate while in Head Start.

While many findings presented in this report provide clear signals about which program components contribute materially to improving child and family developmental outcomes, some are not so clear. We, therefore, will continue to support more focused research to help unravel some of the ambiguities surrounding the issue of what works best for whom. We encourage programs to pursue this search for excellence.

Clennie Murphy, Jr.
Acting Associate Commissioner
Head Start Bureau

June, 1985

Preface and Acknowledgements

This Final Report concludes the Head Start Evaluation, Synthesis and Utilization Project which began in September, 1981. Since that time, we have collected, abstracted and catalogued over 1,500 reports on Head Start and other child development programs to form the Head Start research collection. Abstracts of the reports are now easily accessible via a computerized bibliography. The hard copy or microfiche of the studies themselves are housed at ACYF.

During this period we have also undertaken narrative syntheses and meta-analyses of these studies to produce the following reports:

The Effect of Program Duration on Cognitive Development and Family Outcomes (Unpublished) June, 1982

Annotated Bibliography of Head Start-Related Congressional Documents (Unpublished) August, 1982

A Review of Head Start Research Since 1970. Washington: DHHS. Publication No. (OHDS) 83-31184. September, 1983

A Review of Head Start Research Since 1970 and An Annotated Bibliography of the Head Start Research Since 1965. Washington: DHHS. Publication No. (OHDS) 83-31185. September, 1983.

The Effects of the Head Start Program on Children's Cognitive Development. Washington: DHHS. Publication No. (OHDS) 83-31186. September, 1983.

The Effect of Variation in Classroom Characteristics on Children's Cognitive and Socioemotional Development. Unpublished. May, 1984.

The Long-Term Effects of Head Start on Children's Cognitive and Socioemotional Development. Unpublished. July, 1984.

The Impact of Head Start on Children's Health. Unpublished, December, 1984.

The Impact of Head Start on Families. Unpublished, November, 1983.
The Impact of Head Start on Communities. Unpublished, March, 1984.

The Impact of Head Start on the Socioemotional Development of Children. Unpublished, August, 1984.

CSR, Incorporated appreciates the valuable contributions to this study made by numerous individuals. We first want to acknowledge the conscientious involvement of our current Project Officer, Mr. Allen Smith. We also wish to

recognize the substantial contribution made in earlier phases of the project by our former Project Officer, Dennis Deloria and his supervisor, Raymond Collins.

We extend our appreciation to the many Head Start grantees and individual investigators who provided us with "fugitive" studies for the collection.

We wish to recognize our consultants who advised us in the development of the project. Karl White, in particular, was extremely helpful in the development of the coding system and in reviewing and advising us on our work in progress.

Several individuals have worked on the project but left our employment. We particularly wish to acknowledge the work of Adele Harrell, Harriet Ganson, Laura Bonneville, Stephen Schneider, Andrea Shepard, Kim Kelly, and Charles Moore.

Several consultants reviewed the Final Report in draft form. While they did not necessarily endorse our findings, they were conscientious in their evaluations of our work and we appreciate their contributions. They are Dr. Barbara Bowman, Erikson Institute; Dr. Victor Cicirelli, Purdue University; Dr. Marvin Cline, Virginia Polytechnic Institute; Dr. Luis Laosa, Educational Testing Service; and Dr. Karl White, Utah State University.

Finally, we wish to recognize CSR staff other than the listed authors who contributed to this effort. These include Margo Ross and the word processing staff; Gretchen Schultze and Doug Parrish, data processing; and Bill Calhoon, duplicating.

Sherrie Aitken, D.P.A.
Project Director

Ruth Hubbell, Ph.D.
Associate Project Director

READEX FICHE best copy available

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY 1

CHAPTER I. INTRODUCTION

The Growth of Head Start I-1
    The Head Start Synthesis Project I-1

CHAPTER II. GENERAL METHODOLOGY

Introduction II-1
Meta-analysis II-2
    Selecting Studies for the Meta-analysis II-2
    Coding the Studies for Meta-analysis II-3
    Calculating Effect Sizes for the Meta-analysis II-4
    Using Weighted Effect Sizes for the Meta-analysis II-6
    Controlling for Quality of Studies in the Meta-analysis . . . II-9
    Outcome Measures Used in the Meta-analysis II-11
    Types of Studies Included in the Meta-analysis II-12
    Variation in Head Start Sites II-13
    Non-comparability of Treatment and Control Groups II-14
Narrative Reviews II-15
Comparison of Report Findings with Earlier Papers II-16
Outline of Report II-17

CHAPTER III. THE IMPACT OF HEAD START ON THE COGNITIVE DEVELOPMENT OF CHILDREN

Introduction III-1
Research Questions III-1
Methodology III-2
    Studies and Study Quality III-2
    Study Quality III-2
Overview of Previous Reviews of the Impact of Head Start and Other Early Childhood Programs on Cognitive Development . . III-3
Meta-analysis of Cognitive Outcomes III-6
    Preliminary Analyses III-7
Findings of Meta-analysis III-8
Immediate Effects of Head Start on Children's Cognitive Development III-8
Long-Term Effects of Head Start on Cognitive Development III-8
    Treatment/Control Studies: Global Cognitive Measure III-10
    Treatment/Control Studies: Intelligence Tests III-11
    Treatment/Control Studies: School Readiness Tests III-12
    Treatment/Control Studies: Achievement Tests III-13
    Pre/Post Studies: First Year Findings III-13
    Analysis of Longitudinal Studies III-14

TABLE OF CONTENTS (continued)

Page

Other Outcome Measures III-17
Summary of Meta-analysis of Cognitive Effects III-20
Narrative Review of Intermediate and Long-Term Head Start Findings III-21
Intermediate-Term Studies (Follow-up Through Second Grade or Less) III-21
Long-Term Studies (Follow-up Past Second Grade) III-33
Meta-Analysis of Effects of Program and Child Characteristics on Cognitive Outcomes III-41
Program Characteristics III-42
Family and Child Characteristics III-51
Summary of Head Start Program and Child Characteristics Effects III-62
Program Characteristics III-62
Child and Family Characteristics III-62
Discussion of the Cognitive Findings III-63

CHAPTER IV. THE IMPACT OF HEAD START ON SOCIOEMOTIONAL DEVELOPMENT

Introduction IV-1
Central Research Questions IV-3
Methodology IV-3
Selection of Studies IV-3
Coding the Studies IV-3
Outcome Measures IV-5
Overall Findings: Effects of Head Start on Socioemotional Development IV-7
Immediate Effects of Head Start on Socioemotional Development IV-7
Long-Term Effects of Head Start on Socioemotional Development IV-8
Summary IV-11
Findings for Background and Classroom Characteristics IV-11
Differential Effects for Background Characteristics IV-12
Classroom Characteristics and Socioemotional Development IV-22
Summary of Findings IV-23
Suggestions for Future Evaluation IV-26

CHAPTER V. THE IMPACT OF HEAD START ON CHILD HEALTH AND HEALTH INSTITUTIONS IN THE COMMUNITY

Introduction V-1
Central Research Questions V-2
Methodology V-3
Selection of Studies V-3
Limitations of the Studies V-3

TABLE OF CONTENTS (continued)

Page

Historical Role of Health in Head Start V-4
The Head Start Health Delivery System V-6
The Abt Associates Study of the Effect of Head Start Health Services V-8
Head Start's Impact on Children's Health V-12
    General Health and Nutrition of Head Start Children V-12
    Dental Health of Head Start Children V-16
    Head Start and Children's Mental Health V-17
    Health Effects of Head Start on the Handicapped V-18
Head Start's Impact on Health Institutions V-21
    Health Education V-21
    The Impact on Health Institutions V-24
Summary V-25
Conclusions and Recommendations V-27

CHAPTER VI: THE IMPACT OF HEAD START ON FAMILIES

Introduction VI-1
Research Questions VI-2
Methodology VI-2
    Selection of Studies VI-2
    Narrative Review and Meta-Analysis VI-3
    Limitations of the Studies VI-3
Earlier Reviews of the Head Start Literature on Families VI-4
What Are the Characteristics of Head Start Families? VI-5
    Summary of Demographic Characteristics VI-10
    Attitudes and Behaviors of Head Start Parents VI-10
    Differences in Head Start and Non-Head Start Families VI-14
How Are Parents Involved in the Program and to What Degree do Parents Participate? VI-20
    Parents as Volunteers VI-21
    Parents as Staff VI-22
    Parent Training or Education VI-22
    Increasing Parental Involvement VI-23
What Are the Effects on Children of Parental Involvement in the Program VI-24
    Meta-Analysis of High Versus Low Parent Involvement VI-25
What are the Effects of Head Start on Parental Attitudes? VI-27
    Impact of Head Start on Parental Attitudes Toward Education VI-27
    Impact of Head Start on Parental Attitudes About Their Lives in the Community VI-29
    Impact of Head Start on Parental Attitudes and Child-Rearing Behaviors VI-31

TABLE OF CONTENTS (continued)

Page

Have Impact of Special Parent Training Intervention Programs Had an Effect on Parents as Educators of Their Children VI-34
How does the Head Start Program Affect Family Use of Resources, on Family Problems and on Health VI-38
What Does the Program Have on Families with Special Needs Children VI-42
Summary VI-43
Conclusions and Recommendations VI-45

CHAPTER VII: THE IMPACT OF HEAD START ON COMMUNITIES

Introduction VII-1
Research Questions VII-2
Methodology VII-3
  Selection of Studies VII-3
  Limitations of the Studies VII-3
Head Start's Role in the Community VII-4
  The Target Population VII-4
  The Development of Head Start and Its Role in the Community VII-4
Earlier Reviews of the Head Start Literature on Communities . . . VII-7
  The Kirschner Study of the Impact of Head Start on Communities VII-7
Effects of Head Start on the Educational System VII-14
  Head Start Linkages with Local School Systems VII-14
  Head Start Impact on Educational Institutions VII-16
  Effects of Head Start on the Delivery of Social and Health Services VII-20
    Provision of Social and Health Services VII-20
    Head Start's Role in the Community Health and Social Service System VII-25
    Head Start's Impact in Changing Community Social and Health Institutions VII-26
Effects of Head Start on Parental Participation in the Community VII-29
  Head Start Impact on Parents that Promotes Community Participation VII-29
  Head Start's Impact on Increasing the Community Involvement of the Poor VII-31
Effects of Head Start on the Economic Base of the Community VII-32
  Head Start Effects on the Economic Base of the Community . . VII-33
  Head Start Impact on the Economic Status of Parents VII-34

TABLE OF CONTENTS (continued)

Page

Factors Affecting Head Start Impact on the Community VII-38
    Characteristics of the Head Start Program VII-38
    Parent Involvement VII-39
    Community Environment VII-40
    Summary VII-41
Conclusions VII-43
Summary Highlights VII-48

APPENDIX A   LIST OF DATA BASES SEARCHED TO COMPILE HEAD START DATA BASE

APPENDIX B   LIST OF KEY WORDS USED TO INDEX HEAD START LITERATURE

APPENDIX C   CODING MANUAL AND FORM

APPENDIX D   BIBLIOGRAPHY FOR CHAPTERS III-VII

APPENDIX E   ADDITIONAL ANALYSES

LIST OF TABLES AND FIGURES

Page

CHAPTER II

Table 2-1: Weighting Procedure for a Hypothetical Study II-7

Table 2-2: Number of Studies and Weighted Effect Sizes Used in Chapter III II-8

CHAPTER III

Figure 3-1 Immediate Effects on Cognitive Development By Study Design and Outcome III-9

Figure 3-2 Global Cognitive Measures: Immediate and Long-Term Effects for Treatment/Control Studies III-10

Figure 3-3 Intelligence Tests: Immediate and Long-Term Effects for Treatment/Control Studies III-11

Figure 3-4 School Readiness Tests: Immediate and Long-Term Effects for Treatment/Control Studies III-12

Figure 3-5 Achievement Tests: Immediate and Long-Term Effects for Treatment/Control Studies III-13

Figure 3-6 Cognitive Outcomes: Effects for Pre/Post Studies One Year After Head Start III-14

Figure 3-7: Immediate Effects on Cognitive Development By Study Design III-15

Figure 3-8: Longitudinal Studies: Immediate and Long-Term Effects for IQ, Readiness and Achievement Measures III-16

Table 3-1 Grade Retention: Effect Sizes by Time After Head Start III-19

Table 3-2 Special Education Placement: Effect Sizes by Time After Head Start III-20

Table 3-3 Longitudinal and Follow-Up Studies of Cognitive Impacts Through Second Grade: Head Start/Control Comparisons by Measure III-22

Table 3-4 Longitudinal and Follow-up Studies of Cognitive Impacts Through High School: Head Start/Control Comparisons by Measure III-34

Figure 3-9 Program Auspices: Immediate Cognitive Effects for Treatment/Control and Pre/Post Studies III-43

Figure 3-10 Curricula: Immediate Effects for Cognitive Outcome . . III-46

Figure 3-11 Number of Children Per Class: Immediate Effects on Cognitive Outcomes III-47

Figure 3-12 Hours Per Day of Program: Immediate Effects on Cognitive Outcomes for Treatment/Control and Pre/Post Studies III-48

Figure 3-13 Language Interaction Emphasis: Immediate Effects on Cognitive Outcomes III-50

Figure 3-14 Age at Enrollment: Immediate Effects on Cognitive Outcomes III-52

Figure 3-15 Age at Enrollment: Immediate and Long-Term Effects for Cognitive Outcomes III-53

Figure 3-16 Pretest IQ: Immediate Effects on Cognitive Outcomes . . III-54

Figure 3-17 Pretest IQ: Immediate and Long-Term Effects for Cognitive Outcomes III-55

Figure 3-18 Minority Composition of Class: Immediate Cognitive Effects III-57

Figure 3-19 Minority Composition of Class: Immediate and Long-Term Cognitive Effects III-58

Figure 3-20 Socioeconomic Status: Immediate Effects on Cognitive Outcomes III-60

Figure 3-21 Socioeconomic Status: Immediate and Long-Term Cognitive Outcomes III-61

CHAPTER IV

Table 4-1 Number of Studies and Weighted Effect Sizes Used on Socioemotional Development Meta-Analysis IV-6

Figure 4-1 Immediate Effects on Socioemotional Development Treatment/Control and Pre/Post Studies IV-7

Figure 4-2 Self Esteem: Immediate and Long-Term Effects IV-8

Figure 4-3 Achievement Motivation: Immediate and Long-Term Effects IV-9

Figure 4-4 Social Behavior: Immediate and Long-Term Effects . . . IV-10

Figure 4-5 Socioeconomic Status: Immediate and Long-Term Effects on Achievement Motivation IV-14

Figure 4-6 Minority Composition of Class: Immediate and Long-Term Effects on Achievement Motivation IV-16

Figure 4-7 Gender Composition of Class: Immediate and Long-Term Effects on Achievement Motivation IV-17

Figure 4-8 Average Class Pretest IQ: Immediate and Long-Term Effects on Achievement Motivation IV-19

CHAPTER V

Table 5-1 Most Prevalent Health Problems Among Head-Start Eligible Children V-9

Table 5-2: Health Evaluations received by Head Start and Non-Head Start Children V-9

Table 5-3: Severity of Handicapping Conditions of Head Start Children V-19

CHAPTER VI

Table 6-1: Characteristics of Head Start Families by Study VI-6

Table 6-2: Differences between Self-Referred and Sought-After Head Start Participant Parents from Holmes and Holmes, 1966 . . . . VI-16

Table 6-3: Studies Included in Meta-Analysis of High Versus Low Parent Involvement on Child Cognitive Outcomes VI-26

Table 6-4: Responses to Question, "What difference has Head Start made in your life this year?" VI-33

Table 6-5: Availability and Use of Community Services by Head Start Families VI-39

Table 6-6: Health Contacts Before and After Head Start VI-40

CHAPTER VII

Table 7-1: Number of Institutional Changes in Each of Four Categories VII-8

Table 7-2: Head Start Participation at Each of Seven Stages of Change Process VII-9

Table 7-3: Examples of Head Start's Role in the Process of Change VII-10

Table 7-4: Head Start Center Utilization of Public School Resources VII-15

Table 7-5: Health Services, Based on PIR Data VII-21

Table 7-6: Social Services Based on PIR Data VII-22

Table 7-7: Head Start Families' Utilization of Community Resources VII-23

Table 7-8: Availability and Use of Health Services VII-24

Table 7-9: Availability and Use of Social Services VII-24

Table E-1 Study Quality E-2

Table E-2 Study Quality by Time Period and Study Design E-3

Figure E-1 Effect Sizes by Design and Study Quality for the Global Cognitive Measure E-4

Figure E-2 Date of Study Publication: Immediate and Long-Term Effects on Global Cognitive Measure E-5

Figure E-3 Attrition Threat by Time After Head Start on Global Cognitive Measure E-7

Figure E-4 Sample Size of Comparison: Relationship of Effect Size Over Time for Treatment/Control Studies on Global Cognitive Measure E-9

Table E-3 Comparability of Treatment and Control Groups in Head Start Studies E-10

Figure E-5 Comparability of Treatment and Control Groups on Global Cognitive Measure E-11

Figure E-6 Program Auspices: Immediate and Long-Term Effects on Global Cognitive Measure E-13

Figure E-7 Curricula: Immediate and Long-Term Effects for Global Cognitive Measure E-14

Figure E-8 Class Size: Immediate and Long-Term Effects for Global Cognitive Measure E-15

Figure E-9 Class Hours Per Day: Immediate and Long-Term Effects on Global Cognitive Measure E-16

Figure E-10 Language Interaction Emphasis: Immediate and Long-Term Effects for Global Cognitive Measure E-17

Table [illegible] [illegible] VII-21

Table [illegible] [illegible] VII-22

Table [illegible] [illegible] of
[illegible] VII-23

Table [illegible] [illegible] . . . . VII-2[illegible]

Table [illegible] [illegible] VII-24

Table E-1 Study Quality E-2

Table E-2 Study Quality by Time Period and Study Design E-3

Figure E-1 Effect Sizes by Design and Study Quality
for the Global Cognitive Measure E-4

Figure E-2 [illegible] Immediate and
Long-Term Effects [illegible] Cognitive Measure E-5

Figure E-3 [illegible]
[illegible] E-6

Figure E-4 [illegible] Relationship of Effect
[illegible] Treatment/Control Studies on
Global [illegible] E-9

Table E-3 Characteristics of Treatment and Control Groups
[illegible] E-10

EXECUTIVE SUMMARY

THE IMPACT OF HEAD START ON CHILDREN, FAMILIES AND COMMUNITIES

Executive Summary

The Impact of Head Start on Children, Families and Communities

TABLE OF CONTENTS

Page

OVERVIEW 1

BACKGROUND 2

METHODOLOGY 4

- Collection of Documents 4
- Meta-analysis 5

RESULTS 7

- Impact of Head Start on Children's Cognitive Development 7
  - Overall Impact 7
  - Effects of Program Characteristics 10
  - Effects of Child and Family Characteristics 11
- Impact of Head Start on Children's Socioemotional Development . . . 11
  - Overall Impact 11
  - Effects of Program Characteristics on Achievement Motivation . 14
  - Effects of Child and Family Characteristics on Achievement Motivation 14
- Impact of Head Start on Children's Health 15
- Impact of Head Start on Families 17
- Impact of Head Start on Communities 19

DISCUSSION 22

- Cognitive and Socioemotional Effects. 22
- Health, Families and Community Effects. 23

EXECUTIVE SUMMARY

THE IMPACT OF HEAD START ON CHILDREN, FAMILIES AND COMMUNITIES

OVERVIEW

The Head Start Evaluation, Synthesis and Utilization Project involved the collection of over 1,600 documents related to Head Start and the analysis and synthesis of 210 reports of research on the effects of local Head Start programs. This project is distinguished from other reviews of the Head Start evaluation literature in two ways. First, it includes all Head Start research, both published and unpublished, rather than focusing on a subset of studies related to a specific topic. Second, when possible it uses the statistical technique known as "meta-analysis" to produce numerical estimates of Head Start's effects.

The final report[1] for this project presents findings on the impact of Head Start on:

- children's cognitive development
- children's socioemotional development
- children's health
- families of Head Start enrollees
- communities where Head Start programs operate

It concludes that children enrolled in Head Start enjoy significant immediate gains in cognitive test scores, socioemotional test scores and health status. In the long run, cognitive and socioemotional test scores of former Head Start students do not remain superior to those of disadvantaged children who did not attend Head Start. However, a small subset of studies find that former Head Starters are more likely to be promoted to the next grade and are less likely to be assigned to special education classes. Head Start also has aided families by providing health, social and educational services and by linking families with services available in the community. Finally, educational, economic, health care, social service and other institutions have been influenced by Head Start staff and parents to provide benefits to both Head Start and non-Head Start families in their respective communities.

The next sections of this Executive Summary describe the background and methodology for this project, including the meta-analysis technique. Following that is a presentation of the major research questions addressed by this synthesis and the answers supported by the body of Head Start research. The final section is a discussion of the program and policy implications of project findings.

---

[1] The Impact of Head Start on Children, Families and Communities. Washington, D.C.: CSR, Incorporated, 1985.

BACKGROUND

The launching of Head Start in 1965 was a precedent-breaking experiment designed to provide child development services to low-income families. Initially a six-week summer program, Head Start soon was expanded to a full-year term and has served over eight and a half million children since its creation.[2]

The overall goal of the Head Start program, as stated in the Head Start Program Performance Standards,[3] is "to bring about a greater degree of social competence in children of low income families. By social competence is meant the child's everyday effectiveness in dealing with both present environment and later responsibilities in school and life" (p. 1). In support of this goal, the Performance Standards identify six objectives:

1. Improvement of the child's health and physical abilities and the family's attitude toward future health care and physical abilities.
2. Encouragement of self-confidence, spontaneity, curiosity, and self-discipline.
3. Enhancement of the child's mental processes and skills with particular attention to conceptual and communication skills.
4. Establishment of patterns and expectations of success for the child.
5. Increase in the ability of the child and the family to relate to each other and to others.
6. Enhancement of the sense of dignity and self-worth within the child and her or his family (pp. 1-2).

Hundreds of studies conducted under both private and public auspices have focused on the success of Head Start in meeting these objectives. The studies vary widely in subject, design, topics addressed, and findings. Samples range from a handful of children or families to several thousand. Those studied have varied in family size and structure, income, ethnic background, level of parental education and employment status. Some studies measured changes in subjects from before to just after their Head Start experience, while others compared Head Start children and families to those with no Head Start experience. Research has tended to concentrate on changes in children's cognitive performance, with far fewer studies examining Head Start's effects on socioemotional or physical development. A limited number of studies have followed Head Start and non-Head Start samples for several years to determine the stability of program effects over time. Findings of Head Start studies vary widely, with some showing a significant impact of Head Start and others indicating no impact or even a negative impact.

---

[2] Project Head Start Statistical Fact Sheet, Washington, D.C.: ACYF, DHHS, 1983.

[3] Head Start Program Performance Standards, Washington, D.C.: ACYF, DHHS, 1975.

In 1981, the Administration for Children, Youth and Families (ACYF) selected CSR, Incorporated, to undertake a multi-year effort to synthesize the large body of Head Start evaluation literature and make these findings more accessible to national, regional and local Head Start decision makers. ACYF intended that the findings be used to help direct the course of policy and program initiatives and to identify areas of need for additional and more focused research. The Head Start Evaluation, Synthesis and Utilization Project addresses the impact of Head Start on children's cognitive development, socioemotional development and health as well as its impact on participant families and local communities. The following section describes the methodology used in this project.

METHODOLOGY

COLLECTION OF DOCUMENTS

The synthesis began with an extensive search for all Head Start-related studies, whether published or unpublished, that had been conducted since the program's inception. On-line searches of computerized bibliographies, written requests to over 1800 Head Start grantees, and contacts with government personnel and private researchers in the Head Start field supplemented materials held by ACYF. Eventually more than 1600 documents were assembled, abstracted, and indexed by topic area.[4] Of these, 210 report the results of research on Head Start, while the remainder include policy documents, descriptive reports, theoretical papers, and analyses of early childhood education programs other than Head Start.

The 210 documents that report findings of Head Start research comprised the data base for the synthesis. The findings address Head Start's impact in five general areas: cognitive development, socioemotional development, child health, families, and communities. Multiple reports of findings from the same study were treated together so that each study is counted only once in any analysis. Traditional narrative review methods were used to synthesize 134 of the studies.

For the remaining 76 studies, enough information was reported to enable application of the quantitative technique known as meta-analysis. Among these studies, 72 investigated gains in cognitive ability, 17 tested for socioemotional gains, and 5 measured family impacts. Cognitive measures used in these studies included tests of intelligence, school readiness, and achievement.[5] A few studies also examined retention in grade and placement in special education classes. Socioemotional measures used relate to three general attributes: self-esteem, social behavior, and achievement motivation.[6] The five studies of family impact that could be included in a meta-analysis examined the relationship between parent involvement in Head Start and child cognitive performance.

---

[4] An annotated bibliography of all collected documents is contained in An Annotated Bibliography of the Head Start Research Since 1965, prepared by CSR, Incorporated (June, 1985) for publication by the U.S. Department of Health and Human Services. An earlier version by CSR, Incorporated appears in A Review of Head Start Research Since 1970 and an Annotated Bibliography of the Head Start Research Since 1965, DHHS Publication Number (OHDS) 83-31185, U.S. Government Printing Office Document Number 1983 0-419-410.

[5] Intelligence tests provide a global measure of an individual's general intellectual level and scholastic aptitude. They include examination of such aptitudes as verbal comprehension, numerical reasoning, numerical computation, spatial visualizaton and associative memory. Readiness for school refers to the set of skills such as motor control, language development, and number and letter recognition that contribute to successful transition to school. Achievement refers to the mastery of subject matter.

META-ANALYSIS

Meta-analysis is a recently developed statistical technique for aggregating the findings of different studies on the same topic. Single-study analyses use data from individual subjects to derive summary statistics (such as averages and standard deviations) that describe the subjects of that study as a group. Meta-analysis uses the summary statistics from a number of studies to describe the findings of those studies as a group.

To enable comparisons among studies, findings of each study in a meta-analysis are converted into "effect sizes"—statistics that compare the performances of two groups. In "treatment/control" studies of Head Start impact, the comparison is between a group of children with Head Start experience (the "treatment" group) and a group with no Head Start involvement (the "comparison" or "control" group). In "pre/post" studies of Head Start, an effect size compares the performances of the same group of children before ("pre-test") and after ("post-test") their Head Start involvement.

When effect sizes were calculated from scores obtained before and after children attended Head Start, test norms were used in the calculations to control for the maturation that occurs naturally in children of that age. While this is the best available way to identify what amount of gain found by pre/post studies can be judged as due to Head Start rather than to normal growth, it is an imprecise adjustment. More confidence generally can be placed in the findings of treatment/control studies, which use comparison groups specifically to control for the effects of maturation and other non-Head Start influences.

In the Head Start synthesis, a positive effect size means that the average score of the Head Start group was larger than that of the non-Head Start group. A negative effect size indicates that the control group out-scored the Head Start group. Educators and researchers in early childhood education commonly consider an effect size in the range of 0.25 or greater (either positive or negative) to be educationally meaningful. Differences of this size accompany noticeable improvements in classroom performance.[7]

---

[6] Self-esteem is a personal judgment of one's own worthiness. Social behavior refers to the child's interaction with other children and adults. As a child matures, interaction with adults gives way to more interaction with other children as solitary play moves to parallel play and then cooperative play. Achievement motivation is the child's desire to complete tasks, master problems, and increase her or his skills and abilities.

[7] Cohen, Jacob. Statistical Power Analysis for the Behavioral Sciences (2nd ed.). New York: Academic Press, 1977.

Once effect sizes are calculated for each study in a meta-analysis, they can be grouped and analyzed in various ways. For the Head Start synthesis, effect sizes measuring the same type of impact (e.g., effect sizes measuring Head Start impact on achievement test scores) were grouped together and then averaged to determine the average impact of Head Start on that aspect of development. For example, all effect sizes for studies that examined achievement test scores were averaged and all effect sizes for all cognitive measures were averaged. (In cases where multiple tests were given to the same group of children, the effect sizes were weighted so that no one group of children affected averages disproportionately.) Average effect sizes were analyzed further to measure the influence of factors such as class size or average child age at enrollment. More detailed information about the many groupings, analyses and weighting used in the Head Start synthesis is provided in the final report.

RESULTS

In this section the findings of the Head Start Evaluation, Synthesis and Utilization Project are presented in a question-and-answer format. Questions are grouped according to the five impact areas addressed by the project: cognitive development, socioemotional development, child health, families, and communities. Answers to some of the questions are labeled "unclear" or "mixed". This occurs when there is insufficient information to draw firm conclusions or when studies yielded conflicting findings. Conflicting findings are particularly common when results from treatment/control design studies are compared to results from pre/post design studies.

IMPACT OF HEAD START ON CHILDREN'S COGNITIVE DEVELOPMENT

Seventy-two studies provided data for meta-analyses of research into Head Start's effects on cognitive development. Results of these analyses are presented below. Conclusions about the program's immediate and long-range impact on intelligence, school readiness and achievement test scores are presented first. Following that section are findings on the ways that various program characteristics and child and family attributes affect Head Start's impact on an overall measure of cognitive development that combines all three types of these cognitive tests. Depending on the availability of an adequate number of studies, some of these findings address both immediate and long-range effects while others pertain to immediate effects only.

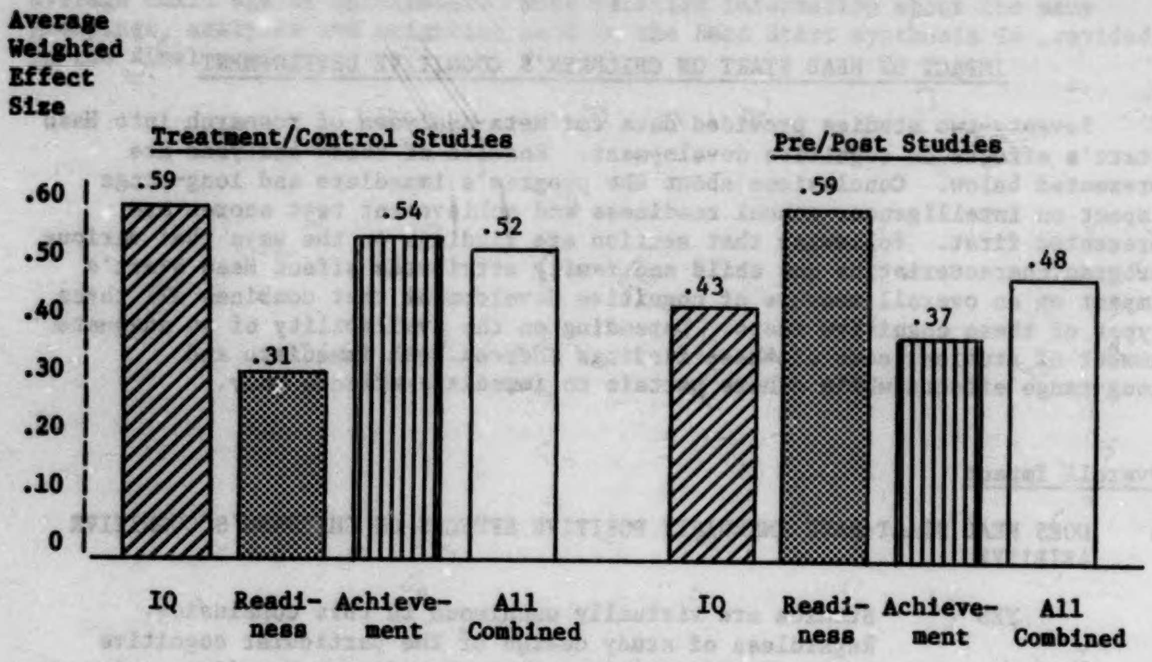
Overall Impact

o DOES HEAD START HAVE IMMEDIATE POSITIVE EFFECTS ON CHILDREN'S COGNITIVE ABILITY?

YES	Studies are virtually unanimous in this conclusion. Regardless of study design or the particular cognitive measure used, children show significant immediate gains as a result of Head Start participation (see Figure 1).

Figure 1

Immediate Effects of Head Start on Cognitive Development, By Study Design and Type of Cognitive Test



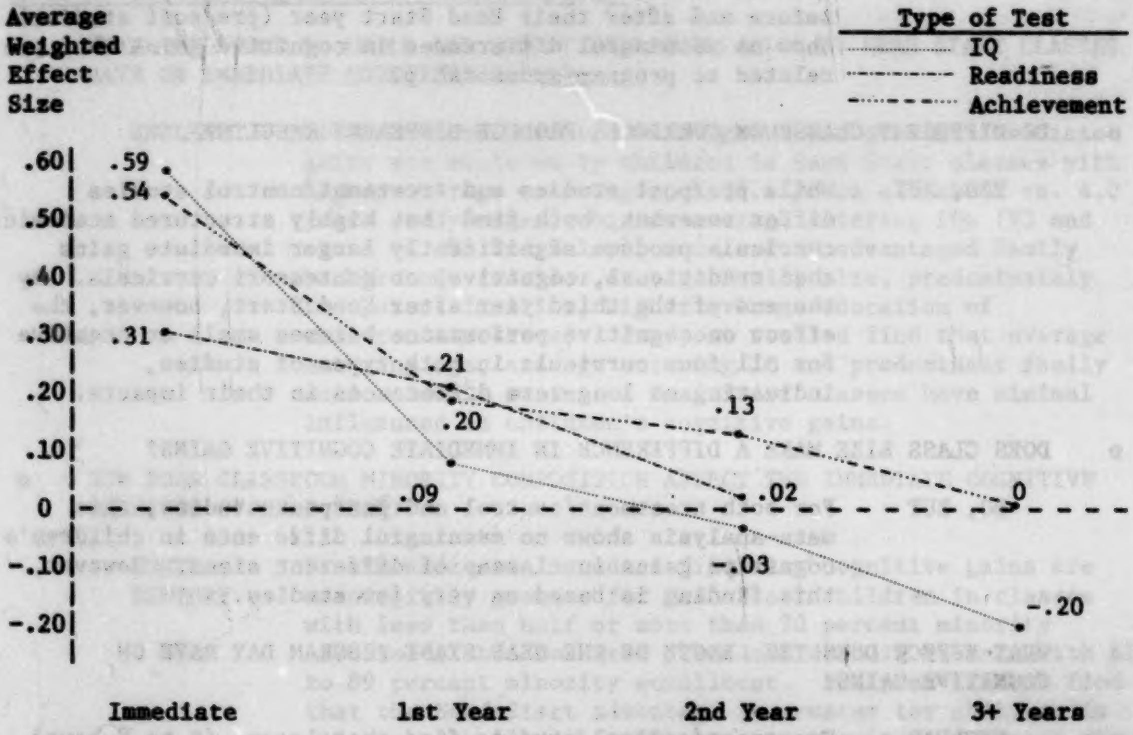
- **DO THE COGNITIVE TEST SCORE GAINS ACHIEVED DURING HEAD START PERSIST OVER THE LONG TERM?**

GENERALLY NO

One year after Head Start, the differences between Head Start and non-Head Start children on achievement and school readiness tests continue to be in the educationally meaningful range, but the two groups score at about the same level on intelligence tests. By the end of the second year there are no educationally meaningful differences on any of the measures (see Figure 2).

Figure 2

Immediate and Long-Term Effects of Head Start on IQ, School Readiness and Achievement Measures (Treatment/Control Studies)



o **DOES HEAD START AFFECT THE LONG-TERM SCHOOL SUCCESS OF ITS FORMER ENROLLEES?**

YES, BUT **Children who attended Head Start are less likely to fail a grade in school or to be assigned to special education classes than children who did not attend. However this finding is based on very few studies.**

Effects of Program Characteristics

o IS THE IMMEDIATE GAIN IN COGNITIVE ABILITY RELATED TO THE TYPE OF AGENCY OPERATING THE LOCAL HEAD START PROGRAM?

UNCLEAR Studies that compare Head Start children with similar children who did not attend Head Start (treatment/control studies) show that immediate cognitive gains are meaningfully greater for children in programs sponsored by Community Action Agencies than for children in public school-sponsored or multiple-agency-sponsored programs. Studies examining the difference in children's scores before and after their Head Start year (pre/post studies) show no meaningful differences in cognitive gains that are related to program sponsorship.

o DO DIFFERENT CLASSROOM CURRICULA PRODUCE DIFFERENT RESULTS?

YES, BUT While pre/post studies and treatment/control studies differ somewhat, both find that highly structured academic curricula produce significantly larger immediate gains than traditional, cognitive, or Montessori curricula. By the end of the third year after Head Start, however, the effect on cognitive performance becomes small or negative for all four curricula in both types of studies, indicating no long-term differences in their impacts.

o DOES CLASS SIZE MAKE A DIFFERENCE IN IMMEDIATE COGNITIVE GAINS?

NO, BUT For both treatment/control and pre/post studies, this meta-analysis shows no meaningful difference in children's cognitive gains in classes of different sizes. However, this finding is based on very few studies.

o WHAT EFFECT DOES THE LENGTH OF THE HEAD START PROGRAM DAY HAVE ON COGNITIVE GAINS?

UNCLEAR Treatment/control studies find that longer (6 to 8 hour) Head Start days are related to markedly higher immediate cognitive effects than are shorter (2.5 to 5 hour) sessions. Pre/post studies of immediate effects find no meaningful difference by length of day.

o DOES THE DEGREE OF EMPHASIS PLACED ON LANGUAGE DEVELOPMENT IN A PARTICULAR HEAD START PROGRAM AFFECT IMMEDIATE GAINS IN COGNITIVE PERFORMANCE?

UNCLEAR Among treatment/control studies, programs with a primary emphasis on language interaction have higher immediate impacts on cognitive abilities than programs in which language is a secondary emphasis. Pre/post studies suggest that there is no meaningful difference between the impacts of the two types of programs.

Effects of Child and Family Characteristics

o WHAT INFLUENCE DO CHILD AND FAMILY CHARACTERISTICS OF HEAD START CLASSES HAVE ON IMMEDIATE COGNITIVE GAINS?

UNCLEAR Treatment/control studies suggest that greater immediate gains are achieved by children in Head Start classes with higher average entering ages (4.1 years and above vs. 4.0 years and younger), higher average entering IQs (93 and above vs. 92 and below), and less-disadvantaged family backgrounds (smaller average family size, predominately two-parent families, higher average education of children's mothers). Pre/post studies find that average entering age, average entering IQ and predominant family socioeconomic status of Head Start classes have minimal influences on children's cognitive gains.

o HOW DOES CLASSROOM MINORITY COMPOSITION AFFECT THE IMMEDIATE COGNITIVE BENEFITS OF HEAD START?

CONTRADICTORY Treatment/control studies find that cognitive gains are meaningfully greater for Head Start children in classes with less than half or more than 90 percent minority enrollment than for Head Start children in classes with 51 to 89 percent minority enrollment. Pre/post studies find that the Head Start advantage is greater for children in classes with less than 90 percent minority enrollment than for children in classes where minority enrollment is 90 percent or more.

o DO ANY OF THE CHILD AND FAMILY CHARACTERISTICS OF HEAD START CLASSES INFLUENCE THE PERSISTENCE OF COGNITIVE PERFORMANCE PAST THE HEAD START YEAR?

NO For the most part, regardless of the average entering age, average entering IQ, minority composition or family socioeconomic status of their Head Start class, former Head Start children perform on a par with or less well than their non-Head Start peers at one, two and three years after Head Start. The few exceptions are unrelated to each other and suggest no clear trends.

IMPACT OF HEAD START ON CHILDREN'S SOCIOEMOTIONAL DEVELOPMENT

Meta-analyses of results from 17 studies provided information about Head Start's immediate and long-range effects on self-esteem, achievement motivation and social behavior. They also provided information on the impact of two program characteristics and several child and family attributes on gains in achievement motivation. Treatment/control and pre/post studies of socioemotional impacts were analyzed together because there were too few pre/post studies to permit separate analyses and combining the two types of studies did not appreciably affect the results. The studies did not examine the effects of other program variables, or the effects of child and family attributes on self-esteem and social behavior, in numbers sufficient to allow meta-analyses of these relationships.

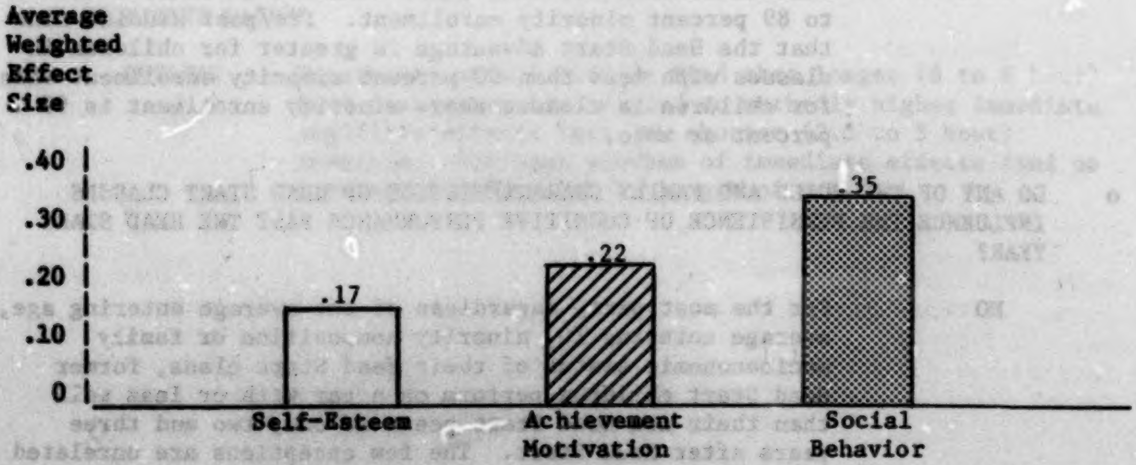
Overall Impact

o DOES HEAD START HAVE IMMEDIATE POSITIVE EFFECTS ON CHILDREN'S SELF-ESTEEM, ACHIEVEMENT MOTIVATION AND SOCIAL BEHAVIOR?

YES **At the end of the Head Start year, program participants score higher in all three areas than comparison groups of non-Head Start children. The greatest difference is in social behavior, the least difference is in self-esteem (see Figure 3).**

Figure 3

Immediate Effects of Head Start on Self-Esteem, Achievement Motivation and Social Behavior (Treatment/Control and Pre/Post Studies Combined)

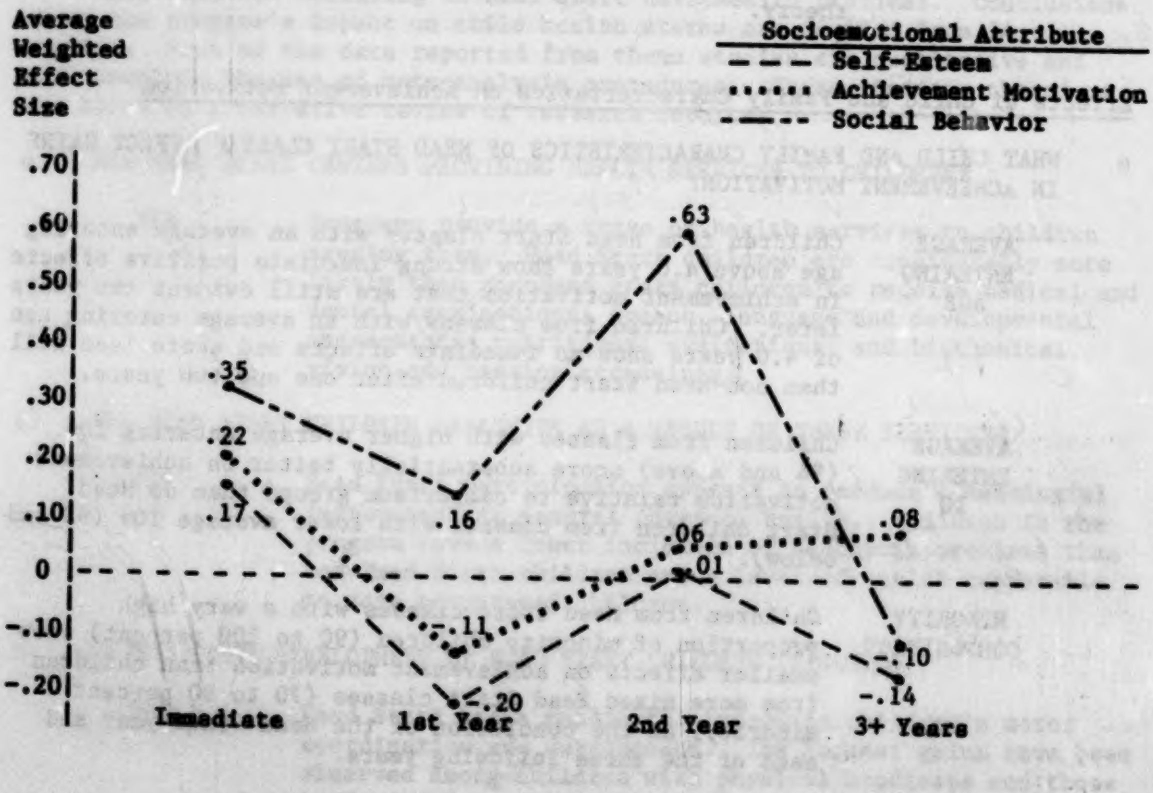


o **DO THE SOCIOEMOTIONAL GAINS FOUND IMMEDIATELY AFTER HEAD START PERSIST IN LATER YEARS?**

MIXED On social behavior, former Head Start enrollees continue to score higher than non-Head Start children two years after Head Start, then drop to the level of comparison children by the end of the third year. On achievement motivation and self-esteem, Head Start children drop below non-Head Starters a year after Head Start, then score about the same as comparison children for the next two years (see Figure 4).

Figure 4

Immediate and Long-Term Effects of Head Start on Self-Esteem, Achievement Motivation and Social Behavior (Treatment/Control and Pre/Post Studies Combined)



Effects of Program Characteristics on Achievement Motivation

- DOES AN EMPHASIS ON LANAGUAGE DEVELOPMENT IN A HEAD START PROGRAM AFFECT THE EXTENT OF HEAD START'S IMPACT ON CHILDREN' ACHIEVEMENT MOTIVATION?

YES	Children in Head Start classes with language interaction as a primary emphasis attain higher scores on achievement motivation measures relative to comparison children than do Head Starters in programs with language as a secondary emphasis.

- IS THERE A DIFFERENCE IN THE IMPACT ON ACHIEVEMENT MOTIVATION BETWEEN THEORY-BASED AND NON-THEORY-BASED CURRICULA?

NO, BUT	Immediately after Head Start, the difference in achievement motivation scores between Head Start children and comparison children is somewhat greater for Head Starters whose programs employed theory-based curricula than for Head Starters from non-theory-based curricula. This is particularly true for curricula based on Piagetian theory.

Effects of Child and Family Characteristics on Achievement Motivation

- WHAT CHILD AND FAMILY CHARACTERISTICS OF HEAD START CLASSES AFFECT GAINS IN ACHIEVEMENT MOTIVATION?

AVERAGE ENTERING AGE	Children from Head Start classes with an average entering age above 4.0 years show strong immediate positive effects in achievement motivation that are still evident two years later. Children from classes with an average entering age of 4.0 years show no immediate effects and score less well than non-Head Start children after one and two years.
AVERAGE ENTERING IQ	Children from classes with higher average entering IQs (94 and above) score substantially better on achievement motivation relative to comparison groups than do Head Start children from classes with lower average IQs (93 and below).
MINORITY COMPOSITION	Children from Head Start classes with a very high proportion of minority children (90 to 100 percent) show smaller effects on achievement motivation than children from more mixed Head Start classes (70 to 90 percent minority) at the conclusion of the Head Start year and each of the three following years.

GENDER MIX	**Children whose Head Start classes had a balanced gender mix (45-57% girls) show higher achievement motivation score gains than children from classrooms where either boys or girls predominated. The differences are educationally meaningful one and two years after Head Start.**
FAMILY SOCIO-ECONOMIC STATUS	**Immediately after Head Start and for the three subsequent years of testing, children from Head Start classes with less-disadvantaged families (smaller average family size, predominately two-parent families, higher average education of childrens' mothers) have appreciably higher achievement motivation scores relative to comparison groups than do children from classes where more children were disadvantaged (larger families, single-parent families predominate, mothers average less education).**

IMPACT OF HEAD START ON CHILDREN'S HEALTH

Many children enrolling in Head Start have health problems. Conclusions about the program's impact on child health status are derived from 34 studies. Most of the data reported from these studies are qualitative and thus preclude the use of meta-analysis procedures. These findings therefore are based on a narrative review of research reports.

o ARE HEAD START CENTERS PROVIDING HEALTH SERVICES TO CHILDREN?

YES **Programs provide a range of health services to children needing them. Head Start children are considerably more likely than non-Head Start children to receive medical and dental examinations; speech, language and developmental assessments; nutritional evaluations; and biochemical, vision and hearing screenings.**

o ARE HEAD START CHILDREN HEALTHIER AS A RESULT OF THESE SERVICES?

YES **Head Start participation appears to produce a meaningful improvement in general physical health. Children in the program have a lower incidence of pediatric problems than non-Head Start children and a level of health comparable to more advantaged children.**

o IS THE MOTOR DEVELOPMENT OF HEAD START CHILDREN IMPROVED?

YES **Head Start has a meaningful impact on children's motor coordination and development. The largest gains have been observed among children with physical handicaps and those suffering from developmental delays.**

- ARE HEAD START CHILDREN PROVIDED A HEALTHIER DIET?

  YES, BUT Head Start meals and snacks provide up to 50 percent of the nutrients recommended for children of this age. Children who attend a Head Start center tend to have higher protein, calorie and essential nutrient intake than children who do not attend. They also tend to be healthier according to biochemical indices. However, the research is mixed on whether the home diets of Head Start children are better than those of non-Head Start children. Some studies report no differences.

- DO HEAD START CHILDREN BENEFIT FROM DENTAL SERVICES?

  YES Head Start children are in great need of dental care when they enter the program, with many never having been to a dentist. Two studies indicate that Head Start children receive better dental care, have fewer cavities and practice better dental hygiene than non-Head Start children.

- IS HEAD START MEETING ITS MANDATE TO SERVE HANDICAPPED CHILDREN?

  YES, BUT Individual programs generally meet or exceed the requirement that at least 10 percent of enrollees be professionally diagnosed as handicapped, but most of these children exhibit mild impairments such as speech and developmental disabilities. Only a small percentage of handicapped Head Start children are severely disabled. Many programs lack specially trained teachers and individualized educational plans for handicapped children.

- DO HANDICAPPED CHILDREN BENEFIT FROM HEAD START PARTICIPATION?

  PROBABLY Research on this topic is minimal, but Head Start has been shown to have positive impacts on developmental, speech/language, and vision disorders. Further, developmental and behavioral gains are greater for Head Start than non-Head Start handicapped children, and mentally retarded children in Head Start show significantly more motor ability than similar children not in Head Start.

- WHAT IS HEAD START'S IMPACT ON CHILDREN'S MENTAL HEALTH?

  UNKNOWN Although Head Start programs are required to include a mental health component, no studies were located that evaluate the effect of mental health services.

- IS HEALTH EDUCATION FOR HEAD START PARENTS EFFECTIVE?

GENERALLY NO Most studies do not show a significant difference in health behavior practices at home between parents who participate in Head Start health education programs and those who do not participate.

IMPACT OF HEAD START ON FAMILIES

Head Start is intended to benefit not only children, but their families as well. Findings on family impacts of Head Start are based on the results of 75 studies. Five of these provided enough data on the relationship between parent involvement in Head Start and child cognitive performance to permit use of meta-analysis methods. The remaining findings result from narrative reviews of this literature.

- DO HEAD START PARENTS VALUE THE HEAD START EXPERIENCE?

YES Head Start parents see benefits to their children that are consistent with program goals and they also see many benefits to themselves. Parents of bilingual children and handicapped children are highly positive about Head Start's efforts to serve their children.

- DO PARENTS PARTICIPATE IN HEAD START PROGRAMS?

GENERALLY YES Sizeable proportions of parents participate in various paid and volunteer capacities. Many serve as teacher aides or prepare meals, while some perform administrative or clerical work. Others are involved in planning and policy development. Extent of involvement is uneven, however, with a core of parents contributing a disproportionate share of time.

- IS PARENTAL INVOLVEMENT IN HEAD START RELATED TO A CHILD'S PERFORMANCE ON TESTS OF COGNITIVE ABILITY?

UNCERTAIN Children whose parents are highly involved in Head Start perform better on cognitive tests than children whose parents are less involved. It is unclear whether the difference is actually a result of Head Start involvement, or whether such factors as parental concern for the child's education lead to both parental involvement and child achievement.

o DO HEAD START PROGRAMS PRODUCE CHANGES IN PARENTAL CHILD-REARING PRACTICES?

UNCLEAR — The impact of Head Start on parental child-rearing practices has been mixed. Some studies report small but positive effects on parents' interaction with children, while other studies have shown no effects.

o DO SPECIAL PROGRAMS THAT FOCUS ON HELPING PARENTS TEACH THEIR CHILDREN ACADEMIC SKILLS HAVE AN EFFECT ON EITHER PARENTS OR CHILDREN?

UNCLEAR — While some studies report significant gains by children whose parents received special parent-as-educator training, others show no impact. Evidence for impact on parents is similarly inconclusive.

o DOES HEAD START INVOLVEMENT AFFECT PARENTS' ATTITUDES TOWARD EDUCATION?

NO — Head Start has little effect on changing parents' attitudes toward the value of education. Most studies find no difference in attitude between Head Start and non-Head Start parents. Children whose parents do value education score higher on cognitive tests and behavioral ratings.

o DOES EXPERIENCE WITH HEAD START AFFECT PARENTS' ATTITUDES TOWARD THEIR OWN LIVES?

PERHAPS — Several studies suggest that mothers who actively participate in Head Start are happier and show increased trust in other people, improved psychological well-being, and less anxiety, depression and somatic complaints than mothers who participate less. There is not enough information, however, to be sure that Head Start experience is the cause of those positive outcomes.

o ARE THERE PARTICULAR PARENT-CHILD BENEFITS FROM HEAD START FOR CHILDREN WITH SPECIAL NEEDS?

UNKNOWN — Evidence related to this question is sparse and mostly subjective. The best-designed study found some improvement in parent-child interactions for profoundly handicapped children.

o ARE THERE BENEFITS TO HEAD START FAMILIES BEYOND EDUCATIONAL SERVICES FOR ENROLLED CHILDREN?

YES — Compared to parents of children in non-Head Start preschools, Head Start parents receive more assistance from preschool staff in areas including personal and family problems, hygiene, food habits and medical care. Head Start programs also link families with a wide range of health and social services, and Head Start families increase their use of health care providers.

o HAS HEAD START MADE A DIFFERENCE IN THE LIVES OF PARTICIPATING FAMILIES?

IN SOME CASES — Anecdotal data from several studies indicate that many Head Start parents attribute improved employment and educational status and elevated personal aspirations to Head Start involvement. There has been no systematic research on the topic, however.

IMPACT OF HEAD START ON COMMUNITIES

Head Start is a community-based program. Local centers are encouraged to be responsive to their communities and to involve community resources in meeting the needs of Head Start children. Results of 29 studies are synthesized in these findings about the impact local programs have made on their communities. All findings are based on narrative reviews.

o DOES HEAD START HAVE LINKAGES WITH LOCAL SCHOOL SYSTEMS?

YES — Head Start programs often maintain working relationships with local public schools as evidenced by many programs' use of school resources, joint staff training and cooperative policy statements.

o DOES HEAD START PLAY A ROLE IN COMMUNITY HEALTH AND SOCIAL SERVICE SYSTEMS?

YES — Several studies indicate that Head Start is associated with such systems in many different capacities. Head Start programs provide or arrange for a wide range of health and social services for children and their families. They also serve as information and referral sources for community residents, and as advocates to assure that parents receive needed services.

o HAS HEAD START GENERATED INCREASED UTILIZATION OF EDUCATIONAL, HEALTH AND SOCIAL SERVICES?

YES — Head Start programs educate parents about the need for such services and how to obtain them, and encourage their use.

- **DOES HEAD START CREATE GREATER PARENTAL INVOLVEMENT IN THE COMMUNITY?**

  UNCLEAR Head Start does provide parents with opportunities to develop skills in community organization, leadership and decision making. However, the only study that examined this issue directly found that parents highly involved with Head Start had previously been highly involved in their communities. Nevertheless, Head Start parents' participation in the community is evidenced by their active local support and lobbying efforts on behalf of the program.

- **HAVE HEAD START PROGRAMS BROUGHT ABOUT CHANGES IN EDUCATIONAL, HEALTH, SOCIAL SERVICE, AND ECONOMIC SYSTEMS IN THEIR COMMUNITIES?**

  PROBABLY There is evidence that qualitative and quantitative improvements in services and practices have resulted from efforts of Head Start staff and/or parents. One study found many changes in communities with, and few changes in communities without, Head Start programs. However, the extent of Head Start-related changes nationwide and the frequency with which Head Start has been the primary cause of such changes is unclear because few studies have examined such impact systematically.

- **DO THE BENEFITS OF HEAD START'S COMMUNITY IMPACTS EXTEND BEYOND HEAD START FAMILIES?**

  YES Much of the community involvement by Head Start programs has focused successfully on making institutions more aware of and responsive to the needs of the poor. Furthermore, a large proportion of referrals to community services from Head Start programs are for low-income persons not affiliated with Head Start.

- **WHAT ARE SOME OF THE CHANGES IN COMMUNITY INSTITUTIONS THAT HAVE RESULTED FROM HEAD START INFLUENCE?**

  EDUCATION Head Start concepts and practices such as use of paraprofessionals, increased parent involvement, and development of comprehensive family services have been transferred to some public school systems. Head Start also has made school systems more aware of the educational and social problems of the poor.

  HEALTH & SOCIAL SERVICES In addition to providing referrals and assisting with access to services, there is evidence that Head Start has contributed to the establishment of new mental health clinics and the addition of needed services. It has also advocated for the provision of social services to low-income families.

ECONOMY A Head Start program is an integral part of a community's economic environment. It provides jobs and purchases goods and services. Head Start programs employed 75,860 people in 1982-83. Almost 60 percent of these were minority-group members and many were previously unemployed. Head Start involves parents in education and training that enhance their employability. In some cases Head Start has influenced the hiring practices of other community agencies such as public schools and human service organizations. In addition, efforts by Head Start programs to increase community services have led to the creation of new jobs.

- o **DOES THE VISIBILITY OF A LOCAL HEAD START PROGRAM RELATE TO THE PROGRAM'S EFFECTIVENESS IN INFLUENCING COMMUNITY INSTITUTIONS?**

YES There appears to be a relationship between program visibility and effectiveness in precipitating change. In most instances where changes are reported, the Head Start program has had a high degree of local visibility.

- o **IS A HEAD START PROGRAM'S INVOLVEMENT IN COMMUNITY CHANGE INFLUENCED BY THE TYPE OF AGENCY THAT OPERATES IT (E.G., COMMUNITY ACTION AGENCY OR LOCAL SCHOOL DISTRICT)?**

UNCLEAR Some studies suggest that programs operated by different agencies employ different strategies for effecting community change. Findings vary, however, on whether this relationship exists and what the links may be.

- o **IS PARENT PARTICIPATION RELATED TO THE COMMUNITY IMPACT OF A HEAD START PROGRAM?**

YES Head Start centers with high parent participation are more active in effecting community institutional changes than are centers where parental participation is low.

DISCUSSION

Findings of the Head Start Evaluation, Synthesis and Utilization Project suggest that the Head Start program has enjoyed considerable success. The program has immediate positive effects on cognitive and socioemotional development; persistent effects on preparing children to succeed in school; significant influence on improving children's physical health, motor coordination and development, and nutrition; positive effects on parents; and strong influences on community institutions to meet the needs of low-income families and their children.

While the overall findings are positive, there are clear signals that some areas have not been as successful as others and that Head Start would benefit from program improvements and research focused on topics most relevant to program operation. What do the findings on the cognitive and socioemotional effects of Head Start and its impact on child health, families and communities tell us about future directions for the Head Start program?

COGNITIVE AND SOCIOEMOTIONAL EFFECTS

Clearly, Head Start has strong immediate effects on the cognitive and socioemotional development of young children. These effects are both statistically and educationally meaningful. Over time it appears that test score differences between Head Start and non-Head Start children fade. However, there is some evidence that Head Start graduates outperform comparison children on long-term measures of school success. The studies available suggest that Head Start children may develop the desired social competence to adapt more readily to their school environment and achieve more "real life" academic successes than their non-Head Start peers. From the few studies in this area, these children are seen to progress on schedule in school, and are better able to satisfy requirements for remaining in regular education classes. Such results have significant economic and social cost savings. It is unfortunate that more Head Start studies have not examined these outcome indicators.

The final report of this project includes analyses comparing long-range cognitive effects found by studies conducted before and after 1970. The average impact of Head Start on children for the first two years after leaving Head Start is greater when measured by studies carried out after 1970. This suggests that Head Start program changes made in the 1970s, such as converting summer Head Start to full year programs, initiating a training and technical assistance effort, implementing Head Start Performance Standards and launching the Child Development Associate credential, may be having positive effects on cognitive performance. It also suggests that new impact research is needed to examine the effects of these program improvements on children.

The lack of clear evidence on the interactive effects of program and child and family background characteristics with Head Start is probably due as much to the inadequacy of data as to the lack of effects. Well-designed studies which address these issues directly and within the context of current program operations are still needed.

While Head Start is on the right path, the fact that differences diminish soon after Head Start indicates that even more program improvements are warranted. It may be that cognitive and socioemotional differences diminish over time because the educational environment in elementary schools does not support and stimulate the children as effectively as Head Start did. This suggests that more innovative arrangements designed to sustain the early developmental benefits of Head Start would be desirable. Closer ties could be sought with elementary schools on curricular issues to assure that Head Start children are later exposed to learning activities consistent with their developmental levels. More effective partnerships between parents and Head Start teachers also might prove effective. Parents who see that their efforts contribute to their child's development while in Head Start would be likely to continue this role in elementary school. Certainly the Administration on Children, Youth and Families' imminent plans to revise the Head Start monitoring system and introduce nationwide training for educational coordinators are examples of the positive changes that can be made.

HEALTH, FAMILIES AND COMMUNITY EFFECTS

Head Start is very successful in improving the general health of the children it serves, providing needed health care, and improving existing health care within communities. It appears less successful in its health education efforts and in its efforts to influence better home health practices. Improvements also are needed in services for the handicapped, including better recruiting techniques, more specialized teacher training, and individual service plans.

Head Start parents generally are positive about their children's experience and are satisfied with the benefits they receive. There is evidence that parents who actively participate in the program have high levels of psychological well-being, improve their economic and social status, and have children with high levels of developmental achievement. Parent participation is uneven, however, with a core of parents providing the majority of volunteer hours.

Attempts by Head Start to change parental attitudes about the value of education generally have not been successful, even though these parental values are predictors of child achievement. Parent education programs designed to influence child-rearing practices in the home have had mixed results.

There are no simple strategies for improving parental involvement or helping parents be more effective change agents in their children's development. More programs in which parents play an active role in their children's education should be promoted, and program research should focus on learning what types of programs are most effective. Anecdotal evidence suggests tht Head Start can have profound effects on the personal development and economic status of poor families. Systematic research on these important effects of Head Start, especially over time, is badly needed.

Head Start has been associated with positive changes in community institutions and improvements in the economic base of communities. These changes usually result in increased and more comprehensive social and health services for the poor and in more responsive educational programs. Greater visibility and greater parent participation both increase the effectiveness of a local Head Start program in affecting community institutions.

Much of the research done on community effects has been based on case studies and anecdotal findings. It therefore is not possible to attribute specific changes to Head Start involvement or to estimate the extent of the changes. More systematic research is needed, particularly on ways of increasing parent participation and program visibility to enhance a local Head Start program's effectiveness as an agent of community change.

CHAPTER I

INTRODUCTION

The launching of Head Start in 1965 was a precedent-breaking experiment in the provision of child development services to low-income families. During the first summer, half a million children participated in six-week programs. In subsequent years, Head Start expanded to a full-year term and has served over eight and a half million children since its creation.[1] It was designed to focus on the whole child, including his or her cognitive, social, emotional, and physical well-being. Goals were established to serve parents and to involve them in the program. Program control was placed at the community level to enhance responsiveness to local community needs.

THE GROWTH OF HEAD START

The development of Head Start has been described as covering four periods.[2] The start-up period, 1965-1968, featured quickly devised and diverse six- to eight-week summer programs which served 561,000 children. The transition years (1969-1972) witnessed the conversion from summer to year-round programs. Head Start moved from the Office of Economic Opportunity to the Office of Child Development (in the then-named Department of Health, Education, and Welfare). The Head Start Planned Variation program, which encouraged the use of different curricula, was instituted and programs began to be refined and solidified to meet the unique needs of their communities. The years 1972-1977 have been described as the period of improvement and innovation. Performance Standards were introduced, program options and experimental programs were started, and the Child Development Associate (CDA) program for training and certifying staff was developed. During the years 1978-1982, the program was expanded, starting with an appropriation increment in FY 1978 of $150 million Federal dollars. During this period, Head Start has been one of the Federal initiatives to be included in President Reagan's "safety net" of social programs for low-income families.

In FY 1984, over $1 billion dollars will be spent on Head Start, serving approximately 425,000 children and their families.

---

[1] Project Head Start Statistical Fact Sheet, Washington, D.C.: ACYF, DHHS, 1983.

[2] Collins, R. Children and society: child development and public policy. Unpublished doctoral dissertation, Princeton University, 1981. (HS200020, #314)

> The overall goal of Head Start is to enhance the social competence of children from low-income families. By social competence is meant...the child's everyday effectiveness in dealing with both present environment and later responsibilities in school and life. Social competence takes into account the interrelatedness of cognitive and intellectual development, physical and mental health, nutritional needs, and other factors that enable a developmental approach to helping children achieve social competence.[3]

The Head Start Synthesis Project

Since the beginning of the program, Head Start has been a popular subject for research. Because it was so innovative, it attracted considerable attention from the research community as well as the press and general public. Over the years, hundreds of studies of Head Start have been conducted under private auspices as well as through government grants and contracts.

As Head Start has changed, so has the research focused on it. Early research was directed to the ability of Head Start to produce significant gains in children's cognitive performance. More recent studies have examined socioemotional and physical effects as well as interactive effects on cognitive development, such as whether various curricula affect children differently. While research on children has predominated, some work has also explored effects on families and communities.

The Head Start Evaluation, Synthesis and Utilization Project is a major effort by the Administration for Children, Youth and Families (ACYF) to identify and analyze all of these studies using traditional narrative as well as innovative quantitative synthesis techniques. To this end, CSR under contract with ACYF has collected over 1,600 documents related to Head Start research. Abstracts of these reports are contained in the Annotated Bibliography comprising Volume II of this report. This final report for the project is the summary of our narrative literature reviews and meta-analyses of research on Head Start since its inception.

---

[3] Head Start Program Performance Standards. Administration for Children, Youth and Families, Washington:DHHS, 1975, p. 1.

CHAPTER II

GENERAL METHODOLOGY

INTRODUCTION

The purpose of the Head Start Evaluation, Synthesis and Utilization Project has been to collect all existing documents related to Head Start research studies and analyze them using a variety of synthesis techniques. A series of preliminary reports were prepared while the literature collection continued. Each report analyzed the total amount of relevant information available at the time of preparation.

This report is based on an exhaustive search for research on the Head Start program. The search strategy, described later in this paper, produced over 1,600 documents on Head Start. This body of literature, the most comprehensive collection of Head Start research to date, provides a wealth of information on the impact of Head Start on cognitive, socioemotional, and physical development of children, and on their families and communities.

The process of identifying the universe of studies began with the bibliography assembled in the 1975 Head Start literature review conducted by the George Washington University's Social Research Group. This bibliography included approximately 700 references. The materials collected during that study and additional materials held by ACYF were loaned to CSR. An additional 700-plus references were identified through on-line searches of computerized data banks and through manual searches of selected libraries. A list of sources is provided in Appendix A.

As Head Start resources were collected, the bibliographies included in these works were reviewed for additional references. In addition, over 1,800 Head Start grantees were contacted by letter to request information on reports, papers, and other publications which included Head Start evaluation data. This effort resulted in the location of otherwise fugitive materials. Government personnel and researchers active in Head Start were contacted in an effort to obtain the most current reports. Every document in the collection was abstracted and then indexed by topic area to assist in the retrieval of information. A list of the 26 key words and their definitions used to index the documents is provided in Appendix B.

This report contains two types of integrative syntheses of research studies. Chapters III and IV and part of Chapter VI contain meta-analyses of research results. Meta-analysis is a powerful statistical technique that converts outcome data from each study into an "effect size." The effect sizes from all studies examining the same research question are averaged to give a mean effect size from all studies. Calculation of effect sizes requires the presence of several critical factors in each study, such as two groups of subjects or two time points for comparison. Many studies do not provide this type of data. In those cases, the more traditional narrative literature review has been used to synthesize findings. The chapters on Head Start's impact on child health, families and communities constitute traditional reviews with one exception of a small meta-analysis on effects of parental participation in the program on child outcomes. A narrative discussion of long-term studies is also included in Chapter III. Specific guidelines and standards were followed for each synthesis method and these are described in the following section.

META-ANALYSIS

As explained earlier, meta-analysis is a quantitative technique for combining results of a number of studies. It is a formal tool for extracting and summarizing information that would otherwise require the reviewer to mentally juggle multiple relationships among different variables.[1] Meta-analysis requires precise extraction and coding of information from the studies to be used. The process of selecting and coding studies for the meta-analyses in Chapters III, IV, and VI is described below.

Selecting Studies for the Meta-Analysis

The subset of studies to be included in the meta-analysis was selected from the complete collection by a sequential sorting process. At each step in this process, studies that failed to meet specified criteria were eliminated from the set of eligible studies. All research reports coded with the keywords "cognitive development," "cognitive development IQ," "language" and "reading," "social/emotional development," "social behavior," "family impact," or "parent participation" were identified by computer. Keyword coding was deliberately broad to avoid omitting relevant documents. All documents reporting findings on the same groups of children were considered part of the same study and treated as a single unit to avoid duplicate coding of findings. For example, the description of Louise Miller's longitudinal study of the effects of different curricula in Head Start was contained in eight different reports. However, since the subjects were the same throughout, this was coded as one study.

Study abstracts and, when necessary, study documents were reviewed in order to eliminate:

1) Studies that did not provide findings on the effect of Head Start on cognitive or socioemotional development or parent participation--This step eliminated studies not related to Head Start participation and studies of other Head Start outcomes;

2) Studies that examined only summer Head Start programs--Summer Head Start has been eliminated as a program option, and the

---

[1] Light, R. and Pillemer, D. "Numbers and Narrative: Combining Their Strengths in Research Reviews," in Light, R. (Ed.) Methodological Issues and Procedures. Evaluation Studies Review Annual, Vol. 8. Beverly Hills, California: Sage Publications, 1983. p. 36.

purpose of this review is to learn more about the effects of current Head Start programs;

3) Studies of special Head Start programs including Basic Education Skills, Child and Family Resource Program, Child and Family Mental Health Program, Parent and Child Centers, and Parent and Child Development Centers--These studies do not investigate the effects of regular Head Start. However, Planned Variation is included because it was instituted in regular Head Start programs;

4) Studies of related programs such as Home Start and Follow Through that did not include separate data for participants in regular Head Start;

5) Studies that compared Head Start children to middle-class children or to children who attended other preschool or day care programs;

6) Studies not reporting primary data--Bibliographies, literature reviews, or other secondary reports were eliminated. New analyses of existing data (secondary analyses) were not eliminated, but were used to calculate effect sizes if necessary. However, secondary analyses were not counted as separate studies.

7) Studies not including statistics that compare (a) Head Start children before and after participation in the program or (b) Head Start children and comparable children not enrolled in a preschool program; and

8) Studies that did not provide adequate information or statistics for computing effect sizes--This includes studies that provided means but no standard deviations, and no normal standard deviations were available; studies that did not provide means, F-tests, t-tests, gain scores, or percentages; pre/post studies that did not reveal children's ages so that norms could be used in the calculation of effect sizes to control for maturation; and pre/post studies that did not provide information on child age at pre and posttest or length of time between pre and posttest so norms could be used.

Coding the Studies for Meta-analysis

The screening process resulted in the selection of a total of 76 studies. Of these, 72 studies were used for the cognitive analysis, 17 for socioemotional and 5 for parent participation. These studies represent the population of research with data appropriate for this review. It is a comment on the quality and/or reporting of research in this field that from a potential population of hundreds of studies, a total of only 76 contained usable information for the calculation of effect sizes. A great number of studies used one-shot case study designs, many others failed to report crucial statistics or many others failed to report crucial statistics or information on the children, others were designed to compare Head Start children to more advantaged children on a one-time basis, thus eliminating them from our sample. The studies selected for review were coded to permit a quantitative analysis of the findings. The coding manual is included as Appendix C. Appendix D contains a bibliography for each of five chapters (III-VII) in this report. In the bibliographies for chapters III, IV and VI, the studies coded for meta-analysis are distinguishable from those treated in the traditional review approach by the asterisk (*) appearing next to the item number for the latter group.

The coding system shown in Appendix C was used to record a statistical estimate of the magnitude of Head Start's impact on development--the effect size. The effect size is an outcome measure based on a comparison of the cognitive or socioemotional performance of two groups. Within any one study, there may be a number of two-group comparisons. For any one comparison, there may be a number of effect sizes based on different measures of cognitive or socioemotional development or based on cognitive and socioemotional development measured at different times.

For each effect size, the characteristics of the Head Start experience of each group and the characteristics of the children in each group were coded. Additional information on the study design and on the measurement of the cognitive domain was also recorded. A description of the kinds of information collected is provided in the sections that follow.

Careful attention was directed at the design and implementation of the coding system. Procedures were subjected to extensive pretesting to determine the clarity of items and directions and the feasibility of alternate forms. Drs. Jack Hunter, Gregg Jackson, Herbert Walberg and Karl White provided advice and consultation in this process. After the materials were developed, extensive training sessions were conducted to teach the coders the procedures and definitions required. Training sessions consisted of discussions of problem areas and duplicate coding of studies. Coders worked in teams to code their first several documents to ensure accuracy. All coders held graduate degrees in the social sciences and had research and statistical experience. Reliability of coding ranged from 85-90% agreement.

Calculating Effect Sizes for the Meta-Analysis

The basic outcome measure in meta-analysis is the effect size--a statistic that compares the performance of two groups. In the analysis, standard scores (z scores) are used. The meaning of an effect size can be understood most easily through a brief example. In a comparison of IQ scores between a group of children who have attended Head Start (treatment group) and a group of children who have not received preschool training (control group), an effect size provides a standardized measure of the difference between the treatment and control groups. The posttest mean of the control group is subtracted from the posttest mean of the treatment group and divided by the control group's standard deviation. If the effect size is 0.67, it means that the average score of the treatment group is 0.67 of a standard deviation above the mean for the average score of the control group. An effect size of zero means that there is no difference between the groups. All the effect sizes in this report have been constructed so that a positive effect size implies that Head Start has had a positive effect (e.g., the Head Start group mean is greater than the no control group mean).

The general formula used for calculating effect sizes was:

$$\frac{\bar{X}_T - \bar{X}_{NT}}{SD_{NT}}$$

Where: $\bar{X}_T$ is the mean score for the treatment (Head Start) group, or for a single group design posttest score;

$\bar{X}_{NT}$ is the mean score for the control group or for a single group design pretest score; and

SD_{NT} is the standard deviation of the control group.

For example, consider a study in which the Head Start group scored 110 on an IQ test at the end of Head Start. The control group averaged a score of 100. The standard deviation for this control group was 15. The effect size calculations would be as follows:

$$\frac{\underset{\text{Experimental Group mean}}{110} - \underset{\text{Control Group Mean}}{100}}{\underset{\text{Control Group Standard Deviation}}{15}} = .67$$

The effect size for this comparison is .67

This formula was adapted as needed to permit effect size calculations from a variety of statistics reported in the literature. The formulae for more complex computations of effect sizes can be found in McGaw, B. and White, K.: Meta-analysis of Empirical Research (New York: Academic Press, 1977). The formulae used for calculating the majority of the effect sizes in this review are shown in the coding manual in Appendix C. Dr. Karl White served as the statistical consultant during the coding.

This meta-analysis included many pre/post studies. If effect sizes were calculated using the standard formula, they would produce inflated effect sizes because the children would be maturing naturally between testings. Therefore, test norms were used to control for this natural maturation. Using the children's ages at pre and post/test, the appropriate norm is selected and subtracted from the group mean. The normed standard deviation for each age is used as the denominator.

For example, a Head Start group, average age 4, scored 100 at pretest on an IQ test. The norm for children at 4.0 years on this test is 98. At posttest, 9 months later, the children had a mean of 110. The norm for children aged 4 years 9 months is 105. The normed standard deviations at both pre and posttest are 15. The effect size would be calculated as below:

$$\frac{110 - 105}{15} - \frac{100 - 98}{15} =$$

$$.33 - .13 = .20 \text{ effect size}$$

If norms were not used, the effect size would be .67, thus, use of the norms controls for maturation, at least to some extent. As will be discussed in Chapter III, pre/post studies consistently yield higher effect sizes than treatment/control studies, especially when measured after the immediate posttest. Because of this, we feel that the use of norms is the best available, but less than perfect, control for maturation.

In our discussion of findings, we often refer to cognitive or socioemotional gains. When the studies on which an average effect size is based are pre/post design studies, the meaning of a gain is obvious. However, when the studies are of the Head Start/control group design, gain is used to describe the difference in the performance of children who have participated in Head Start and the performance of comparable groups of children with no preschool experiences--which serves as an estimate of how the Head Start children would have scored without the program. Thus, the difference is their "gain" due to program participation.

Using Weighted Effect Sizes for the Meta-Analysis

In this report, the analysis approach used for treatment of effect sizes differs from that used in some of the earlier papers in this series. In the first papers, we analyzed the data treating each effect size as an independent measure. However, a single study might 1) compare different groups of children, 2) compare the same groups of children at different points in time, or 3) use multiple cognitive or socioemotional measures to test the performance of the same groups of children. Consequently, the resulting effect sizes cannot be considered independent observations of the effects of Head Start.

Therefore, we first divided effect sizes into categories based on the type of outcome studied (cognitive or socioemotional) and the time at which the outcome was measured (up to the end of Head Start, one year after Head Start, two years after Head Start, etc.). When a single comparison (a pretest-to-posttest or treatment-control comparison) yields more than one effect size within a category, the effect sizes were weighted to count as a single effect size. That is, all the effect sizes in the same comparison group, which measure the same outcome variable at the same point in time, are weighted to count as one effect size.

For example, suppose a study compares two separate Head Start classes one year after the program with a control group that did not participate in Head Start. Further, suppose the study used these separate measures, two IQ tests and an achievement test. This would yield a total of six unweighted effect sizes (ES), one for each measure for each class. The weighting procedure for this study is shown in Table 2-1.

Table 2-1
Weighting Procedure for a Hypothetical Study

	IQ	ACHIEVEMENT	GLOBAL COGNITIVE
Head Start Class 1	$\frac{ES_1 + ES_2}{2}$	ES_3	$\frac{ES_1 + ES_2 + ES_3}{3}$
Head Start Class 2	$\frac{ES_4 + ES_5}{2}$	ES_6	$\frac{ES_4 + ES_5 + ES_6}{3}$

$$\left.\begin{array}{l} ES_1 = \text{First IQ test} \\ ES_2 = \text{Second IQ test} \\ ES_3 = \text{Achievement test} \end{array}\right\} \text{for Head Start Group}$$

$$\left.\begin{array}{l} ES_4 = \text{First IQ test} \\ ES_5 = \text{Second IQ test} \\ ES_6 = \text{Achievement test} \end{array}\right\} \text{for Control Group}$$

The two IQ effect sizes would be averaged for each class to yield one weighted effect size per class. Since there is only one achievement measure per class, no adjustment would be made. The global cognitive measure would be computed by averaging both IQ effect sizes and the achievement effect size to produce one weighted effect size per class. Table 2-2 shows the number of studies (N) and weighted effect sizes (n) using this weighting procedure on the Head Start data base.

Table 2-2

Number of Studies and Weighted Effect Sizes Used in Chapter III

	Time After Head Start							
	Immediate (Up to End of Head Start)		One Year After Head Start		Two Years After Head Start		Three or More Years	
Outcome Measure	Pre-Post Studies	Treatment Control Studies	Pre-Post Studies	Treatment Control Studies	Pre-Post Studies	Treatment Control Studies	Pre-Post Studies	Treatment Control Studies
Global Cognitive Measure[a]	N=37 n=92	N=21 n=33	N=4 n=7	N=15 n=28	N=1 n=2	N=12 n=24	N=1 n=1	N=8 n=25
IQ Tests	N=29 n=79	N=12 n=19	N=3 n=3	N=9 n=17	N=1 n=2	N=9 n=17	N=1 n=1	N=5 n=11
Readiness Tests	N=15 n=49	N=7 n=13	N=2 n=5	N=6 n=0	N=0	N=6 n=11	N=0	N=0
Achievement Tests	N=4 n=14	N=6 n=7	N=0	N=5 n=7	N=0	N=7 n=15	N=0	N=6 n=22

N = Number of studies.
n = number of weighted effect sizes.

NOTE: Some studies measured outcomes at more than one time and/or measured more than one outcome. Thus, the same study may be represented in more than one cell.

[a] The global cognitive measure is the average of all cognitive measures used by a study at each time period.

For both treatment/control and pre/post studies the most popular time to examine Head Start's effects was immediately after the program ended. Table 2-2 also shows that few studies have examined Head Start's impact beyond the second year. Only eight treatment/control studies and one pre/post study have investigated the long-term impact of the program on cognitive development.

In meta-analysis, as in other types of integrative reviews, the question arises as to what constitutes a meaningful impact of the intervention. Educators and researchers in early childhood education commonly consider an effect size in the range of .25 to be "educationally meaningful."[2] Differences of this size are claimed to yield noticeable improvements in classroom performance. We will use this guideline in the analysis of Head Start effects. Further, the analyses of program and child background characteristics we present will also rely on a .25 difference within a characteristic (e.g., large versus small class size) to assess whether the characteristic influences the magnitude of Head Start effects.

We did not conduct tests of statistical significance for the meta-analysis. Our analysis is descriptive, as it is based on all codable Head Start studies available at the time of this analysis. Thus, it is not necessary to draw statistical inferences. In addition, there is considerable controversy regarding the proper method to compute the standard error for conducting significance tests using effect sizes.[3]

This is because multiple effect sizes from the same study cannot be considered independent observations, violating an important assumption necessary for statistical inference. Weighting effect sizes does not adequately resolve this problem for inferential purposes. Thus, the meaning of the statistical test would be unclear. Finally, the few number of effect sizes for many comparisons makes statistical power unacceptably low and very difficult or impossible to find significant differences even where they exist.

Controlling for Quality of Studies in the Meta-Analysis

We considered two approaches to controlling for the quality of the research reviewed for this analysis. One approach is to assess the quality of each study and then to delete all of those which fall below a certain minimum standard. The other approach, and the one selected for this review, is to rate the quality of each study on several factors and then to determine whether the quality of the research is related statistically to the findings on the impact of Head Start on cognitive or socioemotional development.

This approach is one that often perturbs critics both in child development and other fields, who feel poor studies should be excluded from any analysis. While there are certainly problems with many of the studies included in this report, in order for studies to be coded they had to conform to the basic requirements described on pages II-2-3. Thus we are dealing with studies of higher and lower quality; the very bad studies usually could not be coded. Other meta-analysts have considered this quality issue and we quote them below on this subject:

---

[2] Cohen, I. Statistical Power Analysis for the Behavioral Sciences (second edition), Academic Press, 1977.

[3] Glass, G., McGaw, B., and Smith, M. L., op. cit.

An important part of every meta-analysis with which we have been associated has been the recording of methodological weaknesses in the original studies and the examination of their covariance of study findings. Thus, the influence of "study quality" on findings has been regarded consistently as an empirical a posteriori question, not an a priori matter of opinion or judgment used in excluding large numbers of studies from consideration. But a critic once asked us, "Why do you study the difference in the findings of 'good' versus 'bad' studies? If you found a difference, wouldn't you reject the 'bad' studies? and if you found no difference, wouldn't the findings of the 'good' studies be the same as those for all studies regardless of quality?"...Surely, the "good" studies (i.e., those with excellent controls and sophisticated technology) are to be believed if a conflict is observed between findings of good and poor studies....However, if "good" and "poor" studies do not differ greatly in their findings, a large data base (all studies regardless of quality) is much to be preferred over a small data base (only the "good" studies). The larger data base can be more readily subdivided to answer specific questions....The smaller data base of "good" studies only is likely to have too few instances to address many subquestions. Moreover, even when the results of "good" and "bad" studies differ, even the bad or not-so-bad studies can be informative; for suppose that 6 studies of quality "10" on a 10-point scale show a correlation of X and Y of .70 on the average, and that 12 studies of quality "9" show an r of .65, studies of quality "8" an r of .60, and so on down to quality "1," an 4 of .10, say. This pattern is far more informative and lends greater credence to an r of .70 for 6 studies of top quality than would the results of the 6 studies in isolation from all others.[4]

We evaluated each study on the following factors:

1) Sampling (e.g., statistical versus convenience sample, size of sample);
2) Comparison group (e.g., number of comparisons and pre/post design versus Head Start/no-treatment groups);
3) Sources and degree of bias in five categories (regression effects, selection, attrition, testing, and instrumentation bias) and using a four-point scale; and

---

[4] Glass, G., McGaw, B. and Smith, M. L. Meta Analysis in Social Research. Beverly Hills: Sage Publications, 1981, p. 222.

4) Overall index of quality of study (i.e., each study was scored on a five-point scale which ranged from well-executed experimental designs to quasi-experimental or pre/post-designs with major problems).

Characteristics related to each of these dimensions were coded and study findings were examined within the different categories. Specifically, the average effect size for each of the groupings within a characteristic was computed to determine the influence of the characteristic on the magnitude of the effect size. Analysis revealed that the quality of the study is only slightly related to the effect size for treatment/control studies of cognitive outcomes. However, the differences were so small and the directions of the findings for higher and lower quality studies so consistent that the studies were combined in Chapter III. Analyses separated by study quality using the overall quality index are contained in Appendix E for the interested reader. To the extent that there are differences, the higher quality studies show less of an impact of Head Start than the lower quality ones.

Outcome Measures Used in the Meta-Analysis

Both cognitive and socioemotional outcomes are examined in this report. Cognitive measures comprise a range of tests including those for intelligence, school readiness, achievement, and other cognitive development. Intelligence tests provide a global measure of an individual's general intellectual level and scholastic aptitude. They include examination of such aptitudes as verbal comprehension, numerical reasoning, numerical computation, spatial visualization and associative memory.[5] Readiness for school refers to the set of skills such as motor control, language development, and number and letter recognition that contribute to successful transition to school. Achievement refers to the mastery of subject matter. Each of these three measures--intelligence, school readiness, and achievement are analyzed separately to assess differential impact on immediate and long-term cognitive performance. In addition, a single global cognitive measure is used; this global measure combines the results from these three measures as well as limited data on grade retention and placement in special education. We also present analyses of grade retention and placement in special education classes, although the number of effect sizes on these measures is limited and findings are only tentative.

Intelligence tests have received considerable criticism due to their culture-biased content, their susceptibility to practice and motivational effects[6] and their stability which makes them insensitive measures of change in cognitive ability. Nevertheless, they remain good predictors of scholastic success, and are very reliable. The issue of culture fairness is not of great relevance here because no analyses were conducted comparing low-income children to middle-income children, and no analyses compared black children to white children. Indeed, the majority of the children studied here were black. Furthermore, dozens of investigators used these tests. To discard them at this point would have deprived this analysis of the bulk of its data.

---

[5] Anastasi, A. Differential Psychology. New York: Macmillan and Company. 1958.

[6] Zigler, E. and Butterfield, E. C. "Motivational aspects of changes in IQ test performance of culturally deprived nursery school children." Child Development, 1968. 39, 1-14.

Socioemotional outcome measures examined range from assessments of self-esteem to evaluations of innovative and creative behavior. It is appropriate to examine effects in this behavioral domain because several of Head Start's primary goals focus on the enhancement of self-esteem and the development of interpersonal skills. Unfortunately, however, socioemotional measures lack the validity and reliability of many cognitive measures. In Walker's book[7] reviewing socioemotional measures for children, she severely criticizes many of the measures used in these studies, finding that "standardization procedures are practically nonexistent, reliabilities are generally moderate, and validity is generally poor" (p. 39). The heavy dependence of these measures on the child's verbal ability and children's strong desires to please adults by giving "socially desirable" answers are two of Walker's greatest concerns about validity. In her opinion, the most valid measures are observational ones. However, most of the studies reported here rely on testing or the child's self-report.

The lack of standardization of these measures is realized in the absence of norms for most of the measures. In meta-analysis this creates a particular problem with the results of studies using pre/post designs. When norms were unavailable for these measures, the studies could not be coded because there was no control for maturation.

Despite the problems with socioemotional measures, we have included them in our analysis of the effects of Head Start because we believe they tap important components of social and emotional development. Indeed, the socioemotional findings so closely parallel the cognitive findings that we tend to believe that the socioemotional instruments are also tapping cognitive skills.

Types of Studies Included in the Meta-Analysis

The studies included here are of two primary types--pre/post and treatment/control. In some cases repeated measures were made over time, but the majority of studies examined children at only one time point.

Many of the effect sizes were generated from studies that used pre/post designs. These designs have severe analytical limitations for several reasons. The major reason is the inability to control adequately for maturation in the calculation of effect sizes. When norms for the measures were available, they were used to control for maturation. However, most standardized scores are based on middle class population norms. Lower-income population children may be developing at different rates, thus, the standardized scores may not provide an accurate adjustment. Indeed, effect sizes for pre/post design studies do appear inflated. However, this was the best control available. For these reasons, throughout the analysis we present separately findings from pre/post studies and tend to focus on the findings from studies using Head Start and control group comparison study designs.

---

[7] Walker, D. Socioemotional measures for preschool and kindergarten children. San Francisco: Jossey-Bass, 1973.

Attrition

Study findings also must be interpreted cautiously because of attrition of subjects and studies. This is especially crucial in the analyses which focus on long-term effects. First, there is a problem with attrition of subjects, especially those children in the comparison group. Less successful children in the comparison group may be retained or placed in special education classes. Thus, at later points in time, the comparison group could be different than the one compared to Head Start at an earlier point. This differential attrition of subjects would tend to underestimate the true effect of Head Start. (Of course the reverse can also be true.)

In order to assess attrition of subjects in the longitudinal studies we examined the sample sizes over time to determine whether there was a large dropout or differential dropout rates for treatment and control groups. Only one study (Philadelphia School District) showed a large dropout of children. We have no way of knowing what the characteristics of these children were however, as we did not have individual scores or demographic data. Of the remaining studies, all had a small dropout of about 10 percent of their children over the years. The dropout rates did not differ between treatment and control groups. Thus, while we cannot conclusively evaluate the attrition problem, these findings would suggest it is not serious.

Second, there is a problem with attrition of studies. There are significantly fewer studies during the later time points. Findings from these studies are less stable than those focusing on earlier years since the later studies are subject to idiosyncrasies in the few studies upon which effect sizes are based. At the same time, it should be noted that the universe of studies amenable to meta-analysis are examined. Thus, the available data represent what is known now; to the extent that findings are unclear, additional research may be warranted.

The times at which performance is measured differs for the studies. For example, the group of studies upon which effects after 2 years are based may be completely different than the group of studies upon which effects after 3 years are based, depending upon the point at which the individual researcher chose to follow up his or her subjects. Because there may be different studies for different periods, study characteristics are also different, adding additional potential intervening factors, as discussed below.

Variation in Head Start Sites

The studies contained in this synthesis represent a wide variety of Head Start programs. They were located throughout the country, were operated by different organizations, had varying curricula and programs. Many were operating before the Head Start Performance Standards provided consistent goals and expectations for the programs.

This diversity means that the Head Start "treatment" in one study could be quite different from that in another. This no doubt accounts for many of the differences in the effect sizes from the various studies. However, based on the information available in the written research reports, it was not possible to describe the content of the programs or to evaluate their quality. That is, we had no way to select the best Head Start programs from the others or to examine the results by program quality. However, Head Start itself is made up of a range of programs, not all of which are the best. While it would be preferable to take a random sample of all Head Start programs and evaluate them in order to assess the effectiveness of Head Start, given the unlikelihood of such an approach, examining all the available studies on the topic provides the best approximation.

The diversity of programs also creates a problem in the analysis of long-term effects. Because there are very few longitudinal studies, the long-term effects analyses are based on different Head Start sites presented at each time point. Thus one could say that variation in effect sizes over time was due to these differences, rather than to changes as a result of Head Start. In fact, our examination of long-term studies produced results similar to those from cross-sectional studies. Therefore, we do not believe that this methodological issue limits the interpretation of finding prescribed in this report.

Non-comparability of Treatment and Control Groups

One of the greatest challenges to child development researchers who conduct applied research is obtaining treatment and control groups that are comparable to each other. Random assignment of children to these groups from a common pool is the best approach, but it is scarcely possible in the real world. Instead, researchers often use children selected from waiting lists, or children in the same schools who did not attend Head Start.

These less than perfect attempts to match the treatment group frequently result in non-equivalent groups. This type of imbalance, could, according to Campbell and Erlebacher, result in "systematic biases in the direction of making the compensatory program look deleterious" (p. 185).[8] We raise this as a potential problem but wish to state that we do not believe it limits seriously the interpretation of our findings.

To assess this, we carefully examined each study with data past the immediate effects stage. That analysis showed six studies in which treatment/control groups were comparable, six studies in which they were not comparable and the controls were of higher SES than the Head Start group, three in which the treatment and controls were from the same neighborhood, eight in which the controls were also Head Start-eligible, and seven in which comparability could not be determined. In two studies, comparable and non-comparable groups were mixed.

Studies were grouped by comparable, not comparable and unknown, and analyzed to determine if systematic differences existed among these categories. No differences beyond the second year were found. Thus, it does not appear that non-equivalence of control groups is a serious problem in the analysis of long-term effects. This comparability analysis is contained in Appendix E.

Because meta-analysis includes the universe of studies available and involves a quantitative integration, the findings can be used to inform both policy and future research efforts. The technique yields an objective, quantitative assessment of immediate and long-term effects. The data limitations discussed previously need to be recognized and guide the reader's interpretation of results. Yet, these limitations would be present in any analysis of the data base. Meta-analysis represents a new and innovative strategy for integrating findings across studies, and although it cannot control entirely for the limitations discussed earlier, it can provide a different perspective in research synthesis.

NARRATIVE REVIEWS

Where meta-analysis could not be performed due to inadequate numbers of effect sizes, lack of comparison groups or other reasons that make meta-analysis impossible, we present study findings in a traditional narrative review format.

We follow guidelines recommended by Light and by Light and Coor in Light[9] for these reviews. First, insofar as possible, both main effects and interactions are examined when they are presented in the original research reports. Both significance levels and directions of results are examined. That is, while we examine whether or not differences reach the level of statistical significance, we also note the direction of results across studies. This is done because even if results are not significant in each study, if they are in the same direction and could be combined, the resulting findings might be significant. Studies are not excluded because of faulty research designs or methods; however, if these shortcomings bring conclusions into serious question, they are noted for the reader. Conflicting findings are discussed. The narrative review takes advantage of the richly qualitative and descriptive information contained in some studies and uses it to expand the understanding of the programs and families served by them. In an effort to prevent the introduction of "publication bias," all available studies, published and unpublished, are included.

---

[8] Campbell, D. and Erlebacher, A. How Regression Artifacts in Quasi-Experimental Evaluations Can Mistakenly Make Compensatory Education Look Harmful. In Hellmuth, J. (Ed.) Disadvantaged Child, Volume III: Compensatory Education: A National Debate. New York: Brunner/Mazel; 1970, p. 185-210.

[9] Light, R. (Ed.). Evaluation Studies Review Annual.

COMPARISON OF REPORT FINDINGS WITH EARLIER PAPERS

As discussed earlier, this is the final report for the Synthesis project. It was preceded by a series of preliminary reports, each of which used the total amount of relevant information available at the time of preparation. This process presents one potential problem in interpretation of the findings. Because the number of research studies available for each successive review increased, the conclusions of later reports were not always entirely consistent with those from earlier reports. Further, as we continued our analyses, we developed better ways to conduct the analyses or identified problems in the database of which we were previously unaware. These changes in analysis techniques also resulted in some changes in findings.

There are major differences in the analytic approach and number of studies between this paper and previous papers, especially a report on the impact of Head Start on children's cognitive development (hereafter referred to as the cognitive paper).[10] These differences result in inconsistencies between the two papers in the magnitude and direction of some findings. The major differences in approach include: (1) the weighting of effect sizes, (2) the analysis by type of study design and quality, (3) the time periods examined, and (4) the number of studies used.

A major difference in analytic technique is the weighting procedure used for this paper. In the cognitive paper, we analyzed the data treating each effect size as an independent measure. In this report, as discussed earlier, we weighted effect sizes from a single comparison to control for lack of independence among effect sizes. Although the weighting process results in fewer numbers of effect sizes in the current analysis, it improves the interpretability of the results by limiting the extent to which the findings are unduly influenced by a single study.

The second difference also represents an improvement in analytic technique used. In the cognitive paper, effect sizes from pre/post and treatment/control designs were combined and the average effect size reported. Because of the maturation problem, especially for long-term effects, the designs are analyzed separately in this paper.

Third, there are differences in the time periods used to report the data. For example, overall cognitive gains were reported for immediate effect and 0-3 years after Head Start in the cognitive paper. This paper analyzes cognitive gains on a year-by-year basis until 3 years or more. Further, the cognitive paper did not separate studies examining immediate effects versus long-term effects in reporting on the influence of program and background characteristics on Head Start's impact. The current long-term analysis separates the studies, resulting in a refinement of the findings presentation. The cognitive paper did not analyze studies separately by program quality. This paper provides that analysis in Appendix E.

---

[10] Harrell, A. The Effects of Head Start on Children's Cognitive Development: Preliminary Report. CSR, Incorporated, September 1983. DHHS Publication No. (OHDS) 83-31186.

Finally, the current analysis relies on 72 studies, as compared to 64 used in the cognitive paper. This increase in studies, combined with other improvements in analytic techniques, means that we have more confidence in findings presented herein than in the previous preliminary analyses.

OUTLINE OF REPORT

The subsequent chapters in this report provide narrative and meta-analysis of the impact of Head Start on children, families and communities. They include sections on the following topics:

1. The Impact of Head Start on the Cognitive Development of Children
   - Immediate and Long-term Effects
   - Relationships of Child and Family Background and Program Characteristics to Effects on Children
2. The Impact of Head Start on the Socioemotional Development of Children
   - Immediate and Long-term Effects
   - Relationships of Child and Family Background and Program Characteristics to Effects on Children
3. The Impact of Head Start on Child Health
4. The Impact of Head Start on Families
5. The Impact of Head Start on Communities

Chapter III

THE IMPACT OF HEAD START ON THE COGNITIVE DEVELOPMENT OF CHILDREN

INTRODUCTION

The development of cognitive skills is a major goal of Head Start. The Performance Standards require the education component of the program to aim to develop these abilities by encouraging children to solve problems, explore and question, and learn by doing. These standards state that the program should promote language understanding, recognition of numbers and letters, and understanding of concepts. It should help children to organize their experiences and should allow for child- as well as teacher-initiated activities.

While Head Start has broad cognitive as well as other developmental goals, early research on the program focused on children's performance on the readily available, quantitative measures of intelligence. These studies asked simply if Head Start produced IQ gains or if Head Start children scored higher than non-Head Start children on IQ tests.

In the 1970's, cognitive research became more differentiated. Studies examined long-term effects, curriculum effects and the impacts of experimental, time-limited interventions. Researchers continued to use the popular IQ tests but also examined performance on achievement tests and tests of school readiness. This chapter reviews studies on the effects of Head Start on cognitive development beginning with studies of immediate effects (over the program year).

RESEARCH QUESTIONS

In this chapter, we address the following research questions:

1. What are the immediate effects of Head Start on the cognitive development of children?
    a. What are the effects as measured by all cognitive measures combined?
    b. What are the effects on IQ, achievement, readiness and school progress?
2. What are the long-term effects of Head Start on the cognitive development of children?
    a. What are the effects as measured by all cognitive measures combined?
    b. What are the effects on IQ, achievement, readiness and school progress?

3. What are the differential immediate and long-term effects of selected program characteristics on the cognitive development of children?

4. What are the differential immediate and long-term effects of Head Start in relation to child and family characteristics on cognitive development?

The following major sections of this chapter include a description of the methodology used for the analyses in this chapter and an overview of previous reviews of the impact of Head Start and other early childhood programs on cognitive development. These background sections are followed by three findings sections. The first major findings section is based on a meta-analysis of Head Start studies and discusses immediate and long-term effects on cognitive development. The second findings section presents a narrative review of all available long-term studies. The third section, based on a meta-analysis, discusses the effects of program and child background characteristics on cognitive outcomes.

METHODOLOGY

The general methodological approach employed in the Head Start Evaluation, Synthesis and Utilization Project has been discussed in Chapter II of this report. Methodological aspects specific to meta-analysis of cognitive impacts are discussed herein.

Studies and Study Quality

The 72 studies contained in the meta-analysis in this cognitive effects chapter comprise all the identifiable, codable studies on Head Start included in our collection. They vary considerably in quality, sample size, date of intervention and length of follow-up. Some are small studies conducted for dissertations, others are large efforts that were supported by government contracts. Almost all studies were cross-sectional; only six were longitudinal in design.

Study Quality

As discussed in Chapter II, meta-analysis does not exclude studies by research quality on *a priori* grounds. Rather, studies are rated on quality factors to determine whether the quality of the research is related statistically to the findings. The decision on whether to exclude studies is then based on empirical grounds. (See Chapter II for a discussion on how study quality was rated.) Higher and lower quality studies are compared, and if the higher quality studies yield results different from lower quality studies, the latter are discarded or given little credence. If, however, there is little difference in the findings by study quality, all studies are used in the analysis, thereby providing the largest possible data base for the analysis.

The terms "higher" and "lower" quality studies are relative terms. In order for a study to be included in the meta-analysis it had to meet certain baseline standards. A codable study must contain at least one comparison group of children. This may be one group of children studied before and after the Head Start experience (pre/post design) or a group of children who attended Head Start compared to a socioeconomically similar group of the same age who did not attend (treatment/control design). The investigator had to provide data on outcome measures that could be converted into effect sizes (e.g., means and standard deviations, F or t-tests, raw scores, percentiles). If the study was a pre/post design, the outcome measure had to be one for which norms could be obtained and used in effect size calculations to control for maturation. To do this, the age of the children and the length of time between testings had to be provided.

These criteria eliminated many very poor studies such as those with one-group _ex post facto_ designs, those pre/post studies that used unstandardized tests, and studies that did not perform statistical tests on outcomes. It also eliminated some good and poor studies in which the author failed to provide adequate information. Letters were sent to these authors to obtain the missing information but very few responded and often those that did no longer had the information required.

Thus, our references to studies of higher and lower quality refer only to those studies which exceeded a basic threshold of quality; i.e., all of the studies included in the meta-analysis are considered sound, credible research efforts.

During the coding process, we rated the quality of studies using a scale from one to four with four being the highest quality. We analyzed the results by grouping the lower quality (1 and 2) studies and the higher quality (3 and 4) according to study design. Little difference was found in effect sizes between higher and lower quality studies. There was a slight tendency for higher quality treatment/control studies to have lower effect sizes in later years. However, since the magnitude of difference was small, and the same general trends were exhibited regardless of quality, it was decided to combine studies of both levels of quality in the main analysis. Appendix E contains detailed analyses that differentiate study quality for the interested reader.

OVERVIEW OF PREVIOUS REVIEWS OF THE IMPACT OF HEAD START AND OTHER EARLY CHILDHOOD PROGRAMS ON COGNITIVE DEVELOPMENT

In a review that was the precursor to this one, the Social Research Group of George Washington University (Mann et. al. 1976) examined 27 studies of cognitive development in Head Start children that were conducted between 1969 and 1977. Most of those studies are also included here. Using a traditional literature review method, the SRG concluded that full-year Head Start programs produce gains in intelligence and academic achievement. The review cites superior performance by Head Start children on measures of retention in grade and special education class placement. It does not draw a conclusion about the longevity of these effects, but discussions of individual studies show some lasting results and some differences that fade with time. The reviewers note that many of the studies have very small samples. They present very brief information on each study so it is difficult for the reader to determine size or significance of effects or study quality.

One of the earliest reviews (Datta, 1969) examined a number of studies that had been conducted in the first five years of Head Start's life. That review discusses results of early studies on both the immediate and long-term effects of Head Start. Datta does not present information on the individual studies but summarizes findings across studies. She concludes that full-year Head Start has been shown to produce large and significant cognitive gains that reach the national average on the Stanford-Binet IQ test, on tests of general ability and learning readiness. She also finds evidence that the length of time the child attends Head Start is positively related to the final level of achievement. However, she tempers the conclusion by noting that these large gains can be due to test familiarity, changes in motivational level, or attributable to the new experience of "school" which would have occurred with the entrance to primary school.

In her examination of studies on long-term effects, Datta finds that this acceleration in the rate of development is not sustained once children enter school. It appears that the "development gap" between Head Start and non-Head Start children is being closed or has been eliminated by the end of the first year in school, be it kindergarten or first grade. She also offers possible explanations for this phenomenon including the theory that there is a one-time effect to any intervention which is accomplished by Head Start or kindergarten; that primary teachers teach to the class norm which gives more attention to non-Head Start children; that the presence of more advanced Head Start graduates may stimulate the non-Head Starters; that there are learning cycles of spurts and periods of consolidation that account for the Head Start spurt; and finally that children cannot be expected to continue to accelerate in schools that provide fewer individual and family services than were received in Head Start.

Datta's conclusions are the same as those presented in the Westinghouse-Ohio State University study (1969) that found large immediate effects followed by a decline to no significant difference after entry into school. These findings were seized upon by reviewers and the media as evidence that Head Start was unsuccessful. Precipitive articles such as that by Jensen (1968) claimed compensatory education had been tried and failed.

Other reviewers in the early and mid-1970's (Bronfenbrenner, 1974, and Horowitz and Paden, 1973) examined other (non-Head Start) early childhood intervention programs in great depth, with attention to the description of the intervention and to design and methodological problems. Their conclusions are similar to Datta's. Large immediate gains are found which decline after the children leave the program.

Hertz (1977) in an overview of the impact of federal early childhood programs draws the same conclusion that immediate gains are found, but they "wash out" within a few years after the end of the program.

Acceptance of this discouraging pattern became the conventional wisdom regarding early childhood programs until the late 1970's when the Consortium for Longitudinal Studies at Cornell University pooled and reanalyzed the decade-old data of 12 early intervention researchers. The Consortium also coordinated an 11-site follow-up in 1976 and 1980 of the subjects who then ranged in age from 10 to 17 years. Over 2,000 children of an original sample of 3,656 were identified, interviewed and tested. Through the seventh grade the children who had attended the preschool programs were significantly less likely to have failed a grade in school or to have been placed in special education classes than the controls. No differences were found between the two groups on IQ at this point, but there was evidence in some programs that program children scored better than controls on math and reading achievement tests through the third grade and better on math through the fifth grade.[1]

The studies represented in the Consortium differ in important ways from most Head Start studies and programs. First, 9 of the 11 interventions were not Head Start programs but privately sponsored initiatives that were well-funded and professionally staffed. Next, the content of the intervention itself was carefully monitored, directed and evaluated. Most of the studies examined in this report did not systematically study the substance or process of the intervention. Thus the Head Start data base contains studies of programs that probably differed widely. Finally, the Consortium studies examined children from 7 to 10 years after their preschool experience. Most of the studies in this paper end two or three years after Head Start; they rarely follow the children long enough to discover longer-term effects that may exist. Further, they rarely examine the "real-life" measures of success--retention in grade or assignment to special education classes--on which the Consortium found the strongest long-term effects.

As Condry states in the introductory chapter of the Consortium's final report,

> Because the Consortium programs were not actual Head Start programs [with two exceptions] caution must be exercised in making generalizations to Head Start. These programs were closely supervised and carefully documented in ways that Head Start programs generally were not; however, the Consortium programs were similar to Head Start in terms of the general curricular goals and target population. It is recognized that these experimental early intervention programs are examples of what Head Start could be rather than what it has been. (p. 27)[2]

One of the Consortium studies, the Perry Preschool Project by David Weikart, has continued to follow its subjects and has shown continuing benefits over 22 years. That study which has received considerable national press attention found children who had attended the "high quality" preschool program to be more likely to graduate from high school, to enroll in college, to score above average on a test of functional competence and to be employed than those who did not attend. As teenagers, the experimental subjects were also less likely to become pregnant or to be arrested (Weikart, 1984). Again these are results from a well-funded, closely supervised preschool with substantial involvement from early childhood professionals with graduate training. It was not a Head Start program.

---

[1] Royce, J., Darlington, D. and Murray, H. "Pooled Analyses: Findings Across Studies" in The Consortium for Longitudinal Studies (Ed.) As the Twig is Bent, Hillsdale, New Jersey: Lawrence Erlebaum Associates, 1983.

[2] Condry, S. "History and Background of Preschool Intervention Programs and the Consortium for Longitudinal Studies" in Consortium for Longitudinal Studies, op. cit.

It is against the backdrop of these well-known studies and their optimistic findings that this synthesis was undertaken. This chapter examines many of the same questions of immediate and long-term cognitive effects using a diverse group of studies which evaluated a variety of Head Start programs.

This chapter uses both meta-analysis and a traditional narrative literature review to examine the immediate and long-term effects of Head Start on cognitive development. The meta-analysis examines these issues as well as the effects of family background and program characteristics on cognitive development. The narrative review focuses only on the studies of the long-term cognitive effects. Because so few studies examined long-term effects, this review is provided to give the reader a fuller description of the research.

META-ANALYSIS OF COGNITIVE OUTCOMES

In this section we present the results of the meta-analysis of Head Start for cognitive measures. Results are presented year-by-year beginning immediately after the program, one year after, two years after, and three or more years after Head Start.[3] Three outcome measures, IQ tests, school readiness and achievement tests are examined, along with a global cognitive measure, computed by averaging all cognitive outcome measures within each comparison group.

Some readers may question the use of a global cognitive measure, one that combines such different tests as those of intelligence with those of achievement. However, these are all tests of cognitive ability and as the impact of Head Start on cognitive development is our central research question, this approach was deemed appropriate. The combination provides a larger and more stable set of effect sizes for analysis than the individual test analyses.

---

[3] "Immediate" effects derive from testing which occurred from 4 months before the program ended to 6 months after it ended. Subjects who were tested up to six months after the end of Head Start did not have a second intervention such as kindergarten before the immediate posttest. Only one study had an immediate posttest as late as 6 months after program end. In a few cases investigators began post-testing before the program concluded and those results are included here. One year after effects include testing from 8 to 12 months after program end. Two years after effects include testing from 15 to 24 months after program end. Three or more years after include testing from 28 to 168 months after Head Start.

This approach to the combination of outcome variables is an accepted practice among meta-analysts, which in some cases involves even more diverse measures.[4]

The meta-analysis for long-term cognitive effects is supplemented with a narrative review of the studies used in the analysis, and additional studies that could not be coded for meta-analysis because they did not report the necessary quantitative information. These studies include Abt, 1978; Nash and Seitz, 1975; Clark, 1979; High/Scope, 1979; and Seitz, et. al., 1978.

In interpreting the results of meta-analysis the reader is reminded of the issues of data limitation discussed in Chapter II. The concerns include:

- Study design;
- Outcome measures;
- Variations in Head Start sites;
- Possible attrition of subjects;
- Possible attrition of studies; and
- Possible non-comparability of treatment and control groups

The reader is urged to review these issues, as well as additional analyses and methodological issues described in Appendix E, and to keep them in mind while evaluating the results of the meta-analysis.

In the analyses that follow, we present the mean effect size at each time point, the number of weighted effect sizes used to compute the mean (n), the number of studies (N) from which the effect sizes were taken, and the standard deviation (SD). The standard deviation is a measure of the variability of the mean effect size. As discussed in Chapter II, we will consider an effect size in the range of .25 to be an "educationally meaningful" effect. Readers are referred to Chapter II for details on effect size calculations and weighting procedures.

Preliminary Analyses. There are several confounding factors that have the potential to bias the analysis and produce inaccurate findings. In addition to study quality we examined the following possible influences on study effects:

- Date of Head Start Treatment. As noted in the introduction to Chapter I, Head Start has undergone considerable changes since its inception in 1965. Performance Standards have been introduced and credentialing of teachers through the Child Development Associate program are just two of the efforts which have been made to enhance program quality and consistency. Therefore, we compared effects of Head Start by the dates when the children in the study attended Head Start. The studies conducted in 1970 or later showed somewhat higher effect sizes for the first and second years after Head Start than the pre-1970 studies. However, there were no differences between the two groups of studies for the third or more years after Head Start.

---

[4] Smith, M. L. and G. Glass. "Meta-analysis of Research on Class Size and Its Relationship to Attitudes and Instruction" in Richard Light (Ed.) Evaluation Studies Review Annual. Beverly Hills: Sage Publications, 1983. Also, K. White, "The Relation Between Socioecnomic Status and Academic Achievement" in Light, op. cit.

- Attrition. The loss of children from long-term studies is a perennial problem in child development research. Attrition can skew findings either positively or negatively depending upon the aptitude of the children lost. Thus, we examined the extent to which attrition was a threat to the validity of the studies.

- Sample Size. The number of children in a study is of concern because meta-analysis generally makes no allowance for sample size. Therefore, an effect size based on the performance of a group of fifty children is treated equally to that of a group of five children even though the scores comprising the former effect size would be much more stable than the latter. Therefore, we examined this variable separately.

- Comparability of Controls. Despite the best of intentions researchers do not always obtain control groups that are comparable to treatment groups on such crucial variables as socioeconomic status. Control children may be selected because they attend the same schools or live in the same neighborhoods as Head Start graduates. If the control group is more advantaged than the Head Start group, it will usually score higher, if not immediately, then eventually. In order to examine this comparability, we conducted an extensive examination of all long-term studies on the socioeconomic characteristics of the two groups.

The results of these analyses are reported in Appendix E. None of these analyses altered the Head Start findings reported in the remainder of this chapter. Copies of our data tape are available from the Head Start Bureau, ACYF for readers who wish to conduct further analyses.

FINDINGS OF META-ANALYSIS

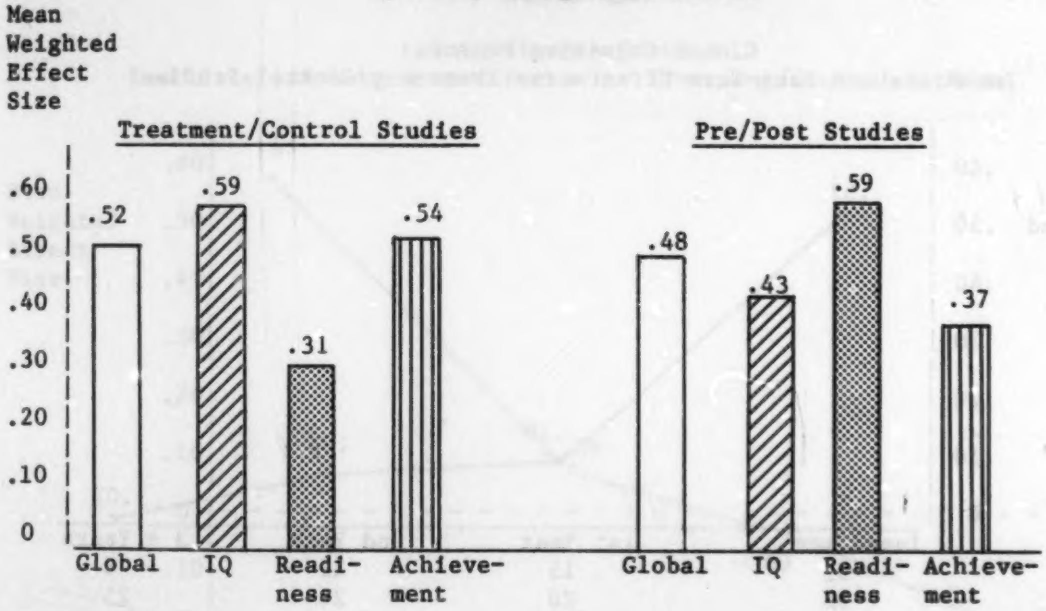
Immediate Effects of Head Start on Children's Cognitive Development

Overwhelmingly, the meta-analysis shows that Head Start has a positive immediate effect on the cognitive development of children. When tested at the end of the program year, children show sizeable gains on all types of cognitive measures or score significantly higher than control children. This is true for each outcome measure, as can be seen in Figure 3-1.

For the global cognitive measure, all but one of the 37 pre/post studies examining immediate effects have positive effect sizes. The average effect size (ES) is .48 with a standard deviation (SD) of .36. This means that the average group of Head Start children improved nearly half a standard deviation over its pretest scores after a year in Head Start. For treatment/control studies the immediate effects for the global measure are similar, with an average effect size of .52 for the immediate posttest and a standard deviation of .40.

Each individual outcome measure also shows positive effects of the Head Start experience. IQ tests show a .59 effect size for treatment/control studies and .43 effect size for pre/post studies, while readiness tests give effect sizes of .31 and .59 for treatment/control and pre/post studies, respectively. While few studies used achievement tests at the end of Head Start, those that did also found positive effects for Head Start. Clearly, regardless of type of outcome measure or study design, Head Start has large and meaningful effects on cognitive performance when measured immediately after the program.

Figure 3-1
Immediate Effects on Cognitive Development
By Study Design and Outcome



	Global	IQ	Readiness	Achievement
Treatment/Control Studies				
N =	21	12	7	6
n =	33	19	13	7
SD =	.40	.42	.37	.51
Pre/Post Studies				
N =	37	29	15	4
n =	92	79	49	14
SD =	.36	.29	.48	.45

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

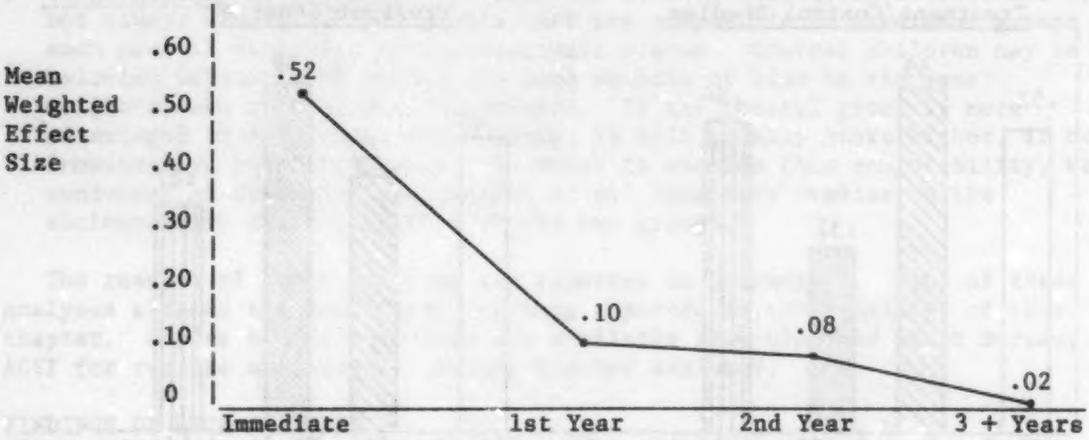
Long-Term Effects of Head Start on Children's Cognitive Development

This section contains findings of the meta-analysis of the long-term effects of Head Start for cognitive outcomes. Results are presented separately for treatment/control and pre/post designs. As described in Chapter II there were systematic differences in effect sizes for studies of these two designs, requiring separate analyses. With the pre/post studies, findings are presented for only the first year after Head Start, as only one study using this design examined effects beyond the first year. Using the treatment/control studies, effects are examined for three years or more beyond the end of the program.

Treatment/Control Studies: Global Cognitive Measure. While the previous analysis in this chapter demonstrates a strong immediate effect of Head Start, Figure 3-2 shows that on the global cognitive measure the initial advantage Head Start children enjoy over their control group counterparts quickly diminishes. One year after the end of Head Start[5] the effect size drops from .52

Figure 3-2

Global Cognitive Measure:
Immediate and Long-Term Effects for Treatment/Control Studies



	Immediate	1st Year	2nd Year	3 + Years
N =	21	15	12	8
n =	33	28	24	25
SD =	.40	.33	.38	.32

N = Number of Studies
n = Number of Weighted Effect sizes
SD = Standard Deviation

---

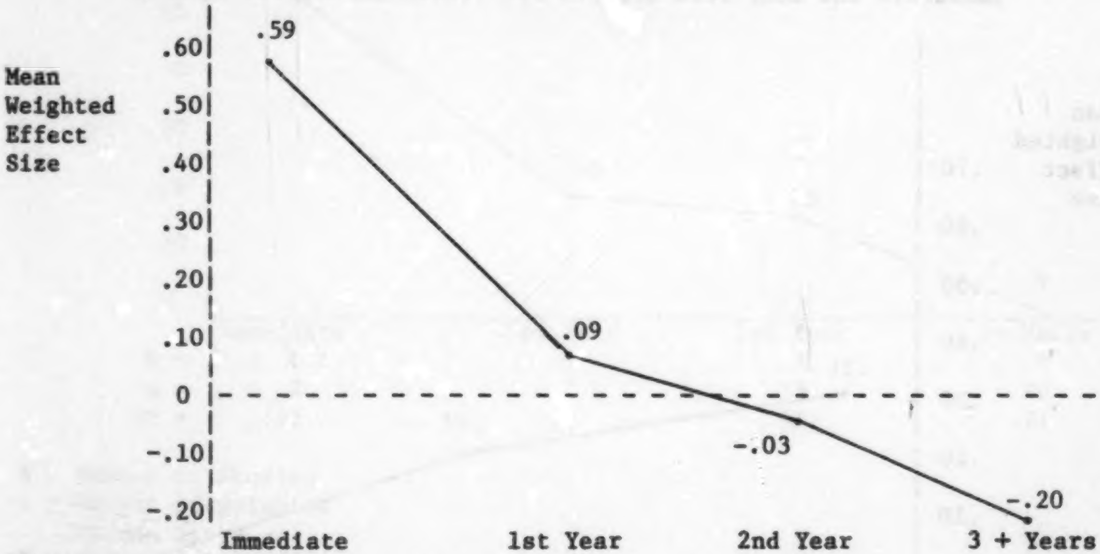
[5] Because some groups of children attended Head Start at age four and other groups at age five, the first year after Head Start may be either the end of kindergarten or the end of first grade. Consequently, the second year is the end of first or second grade and the third year is the end of second or third grade.

to .10 and remains only slightly above zero in succeeding years. While Head Start children continue to score higher than controls on cognitive measures, the magnitude of effect is not educationally meaningful. Once the children enter school, there is little difference between the scores of Head Start and control children. There is, however, a high degree of variability in these findings, as can be seen from the standard deviations. However, as explained in Appendix E, the variation does not appear to be related to study quality. Findings for the individual cognitive measures--intelligence, readiness and achievement--reflect the same trends as the global measure.

Treatment/Control Studies: Intelligence Tests. Figure 3-3 shows the initial superiority of Head Start children over the control groups on intelligence test measures disappears quickly, so that there is virtually no difference between the groups after the second year. Again, there is a high degree of variability in the findings, although no single study shows a meaningful positive effect for Head Start after the second year.

Figure 3-3

Intelligence Tests:
Immediate and Long-Term Effects for Treatment/Control Studies



	Immediate	1st Year	2nd Year	3 + Years
N =	12	9	9	5
n =	19	17	17	11
SD =	.42	.40	.28	.25

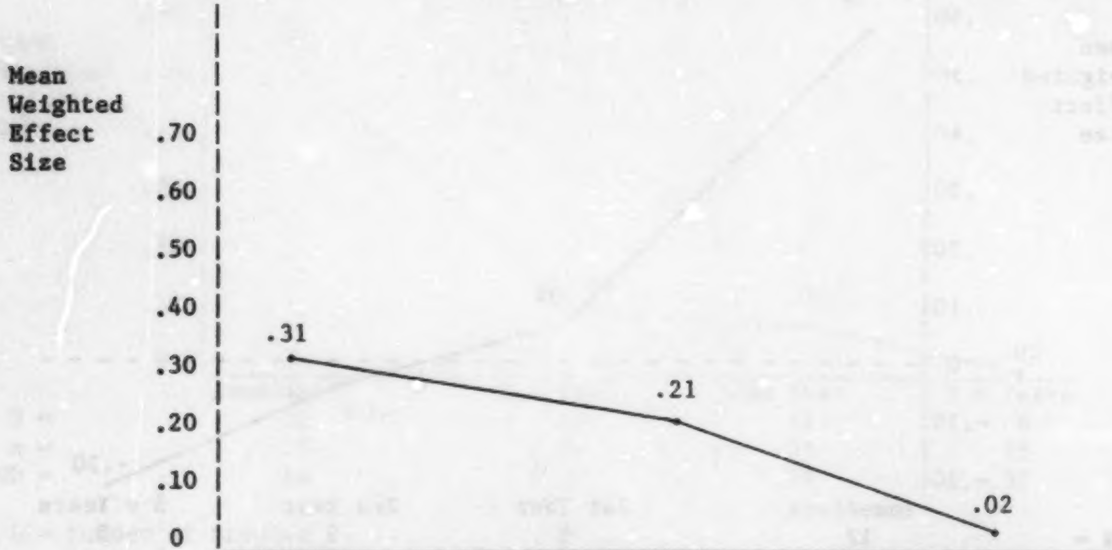
N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Treatment/Control Studies: School Readiness Tests. According to the Performance Standards, Head Start should offer educational opportunities for young children that are designed to promote language use and understanding, recognition of letters and numbers, and concept development. These are some of the skills measured by school readiness tests. Several studies evaluated performance on readiness tests up to two years after the end of Head Start. No studies examined readiness beyond two years, as by that time virtually all Head Start children have begun school.

As shown in Figure 3-4, on school readiness tests Head Start children score above control children at the educationally meaningful level immediately and one year after Head Start. Head Start children are better prepared for school than are controls at this time. Only by the second year after the program are controls at an equivalent level. While there is a higher degree of variability in the data, only one study (Miller, 1969) showed a positive effect on readiness for Head Start children two years after the program's completion.

Figure 3-4

School Readiness Tests:
Immediate and Long-Term Effects for Treatment/Control Studies



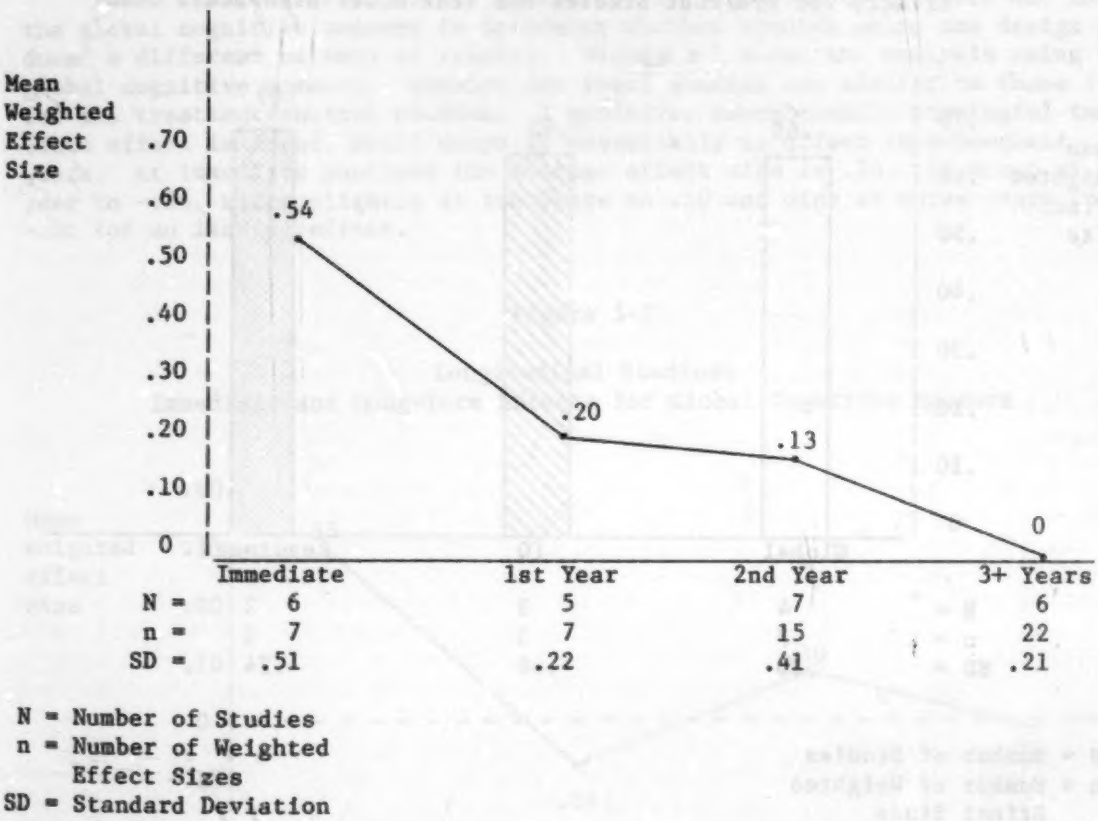
	Immediate	1st Year	2nd Year
N =	7	6	6
n =	13	10	11
SD =	.37	.27	.31

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Treatment/Control Studies: Achievement Tests. Achievement test scores show a pattern similar to school readiness tests (Figure 3-5). There is a strong immediate effect of the Head Start program. One year after Head Start, the program children are still in the educationally meaningful range for superior performance over the controls. The effect declines in the second year after and reaches no differences in the third and later years after Head Start.

Figure 3-5

Achievement Tests:
Immediate and Long-Term Effects for Treatment/Control Studies

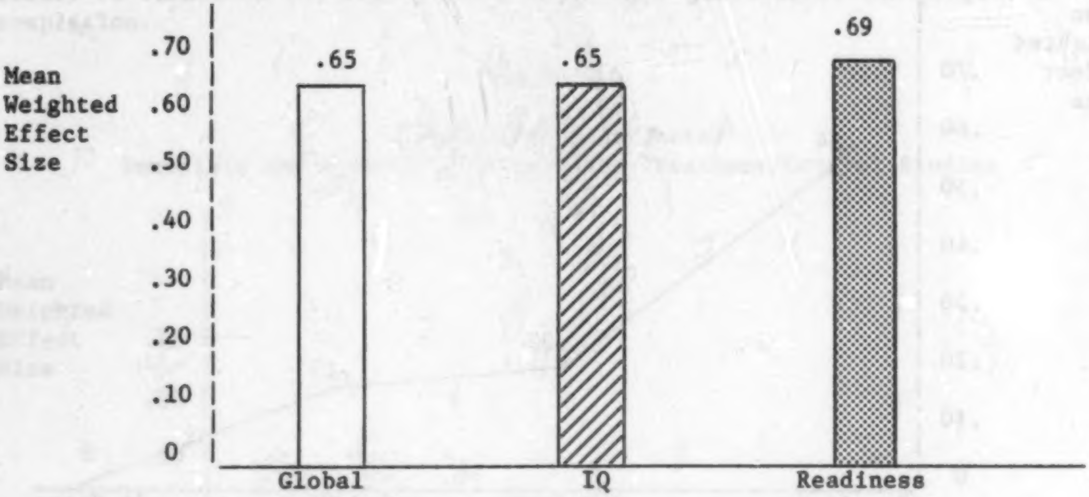


Pre/Post Studies: First Year Findings. The long-term effects of Head Start in pre/post design studies were also examined. This meta-analysis was limited to the first year after Head Start, since only one pre/post study went beyond one year. We also were unable to examine achievement measures in this analysis, since no studies used these tests in the first year.

Studies using pre/post designs found a strong, persistent effect for Head Start up to one year after the end of the program, as can been seen in Figure 3-6. This was true for the IQ, readiness and global outcome measures. These first year effects are slightly higher than those found immediately after the program and are considerably stronger than those found in the first year by treatment/control studies. As discussed in Chapter II, this may be due to insufficient control for maturation in the method used for computing effect sizes in pre/post studies. Thus, the pre/post effect sizes may be inflated.

Figure 3-6

Cognitive Outcomes:
Effects for Pre/Post Studies One Year After Head Start



	Global	IQ	Readiness
N =	4	3	2
n =	7	3	5
SD =	.30	.48	.24

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Analysis of Longitudinal Studies

Most of the studies included in the meta-analysis of long-term effects are not longitudinal studies, but rather are cross-sectional studies of school age children who previously attended Head Start. With such studies different children and different Head Start sites are presented at each time point.

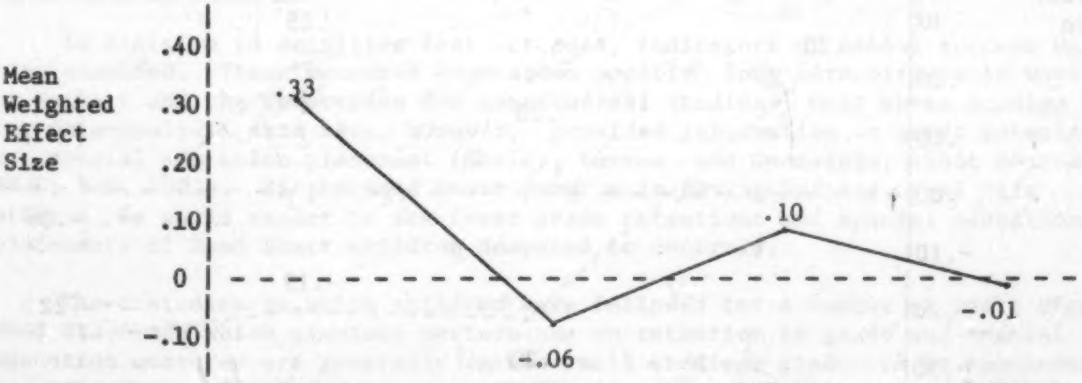
Thus, variations in effect sizes over time may be due partly to these differences rather than to changes as a result of Head Start. Therefore, we also analyzed only those studies designed and implemented as longitudinal studies in order to determine whether different patterns of effect sizes would be found.

Only five studies met the criteria for longitudinal studies and not all of these were represented at each time period. The studies were Cawley and Goodstein, 1966; Miller, 1969; Shipman, 1971; Monroe, 1980; and Philadelphia School District, 1978. Of these studies, only Miller (1969), Shipman (1971) and Monroe (1980) measured immediate effects in addition to long-term effects; Monroe (1980) did not measure first or second year effects.

These studies were analyzed separately for each outcome measure and for the global cognitive measure to determine whether studies using the design produced a different pattern of results. Figure 3-7 shows the analysis using the global cognitive measure. Results for these studies are similar to those found for all treatment/control studies. A positive, educationally meaningful immediate effect is found, which drops to essentially no effect in subsequent years. At immediate posttest the average effect size is .33. It drops at one year to -.06, rises slightly at two years to .10 and dips at three years to -.01 for no lasting effect.

Figure 3-7

Longitudinal Studies:
Immediate and Long-Term Effects for Global Cognitive Measure



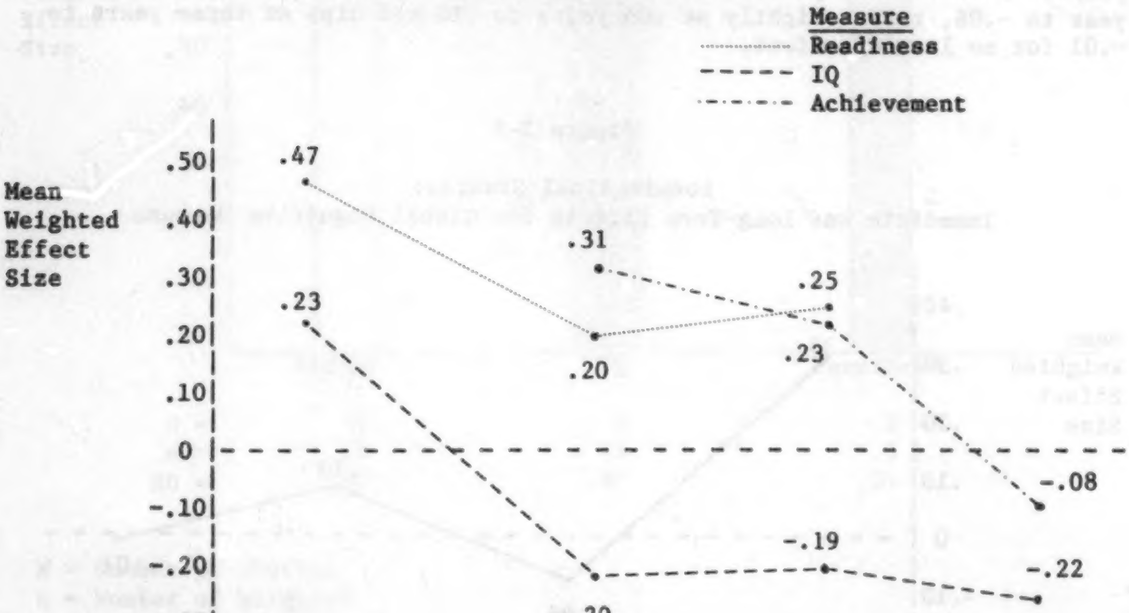
	Immediate	1 Year after	2 Years after	3 Years after
N =	3	4	4	5
n =	7	8	8	10
SD =	.25	.29	.36	.30

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure 3-8 presents the findings for the individual cognitive measures. Intelligence tests show a pattern similar to previous analyses. An immediate positive effect is followed by a sharp drop as control children slightly surpass the performance of Head Start children. Findings for achievement and readiness measures depart somewhat from the analyses using all treatment/control studies. While no longitudinal studies examined immediate effects using achievement measures, positive, educationally meaningful effects are found for the measures in the first (.31) and second year after Head Start (.23). At the end of the third year, however, there is little difference between groups. Readiness measures give positive, meaningful effects at all three time points for which data are available. Up to two years after the program, Head Start children are performing meaningfully better on these measures than control children.

Figure 3-8

Longitudinal Studies:
Immediate and Long-Term Effects for
IQ, Readiness and Achievement Measures



	Immediate			1st Year			2nd Year			3 + Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Readiness	3	7	.26	1	2	.16	2	5	.31		--	
IQ	1	4	.13	2	5	.22	3	7	.17	4	8	.28
Achievement		--		1	1	0	3	7	.36	4	9	.20

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

The longitudinal studies do not produce findings that are greatly different from analyses using all treatment/control studies. While the longitudinal studies show stronger effects in the first and second years on some measures, no studies show Head Start effects lasting into the third year. However, a possible threat to the validity of longitudinal studies is differential attrition of subjects. That is, it is possible that over time, some subjects drop out of the study so that fewer children are available at each time of measurement. The losses may not be equivalent in treatment and control groups. Specifically, in Head Start studies, the less advantaged children in the control group may be more likely to drop out of school than Head Start children, whose parents may be more motivated to have them succeed in school (hence their initial involvement in the program). This attrition of the less capable children from the control group would raise the group mean, thereby making it appear the control children were catching up to or surpassing the Head Start children over time.

We evaluated the impact of the potential problem of attrition in longitudinal studies for attrition. Unfortunately, little information was provided in the studies themselves. However, we did examine the sample sizes of the studies over time to determine whether there was a large drop out or differential drop out rate for treatment and control groups. Only one study (Philadelphia School District) showed a large drop out of children. We have no way of knowing what the characteristics of these children were, however. Of the remaining studies, all had a small drop out of about 10% of their children over the years. The drop out rates did not differ between treatment and control groups. Thus, while we cannot conclusively evaluate the attrition problem, these findings would suggest it is not a serious problem.

Other Outcome Measures

In addition to cognitive test outcomes, indicators of school success were also examined. These measures have shown positive long-term effects in work by Weikart and the Consortium for Longitudinal Studies. Only three studies in our meta-analysis data base, however, provided information on grade retention and special education placement (Cawley, Burrow and Goodstein, 1966; Monroe, 1980; Bee, 1981). If the Head Start program is having lasting, real life effects, we would expect to see fewer grade retentions and special educational placements of Head Start children compared to controls.

These studies in which children were followed for a number of years after Head Start and which examined performance on retention in grade and special education measures are generally rather small studies, conducted by independent investigators. However, they constitute all of the codable studies available which address this issue.

Monroe (1981) studied the progress of 130 children who had attended Head Start in Rome, Georgia, in 1965, comparing them to 88 who had not attended. In 1980, the school records were examined for these students who were 18 years old at the time. Head Start graduates were superior on almost all measures. For those still in the sample, 50 percent of the Head Start graduates and 33 percent of the non-Head Start children had graduated from high school. The remainder in both groups had dropped out. Fifty-one percent of the Head Start students had repeated a grade compared to 63 percent of the non-Head Start students. Eleven percent of the Head Start students had been placed in special education classes compared to 25 percent of the non-Head Start students. Achievement test scores at grades three and five favored the Head Start children, but groups had the same median percentile at grade eight. The median percentile for both groups gradually declined over their school years until grade eight, when the median percentile for both groups on the Iowa Test of Basic Skills was nine percent.

Cawley, Burrow and Goodstein were researchers from universities in Connecticut and Pennsylvania who undertook an assessment of the progress of children who had attended Head Start in Hartford, Connecticut in 1966. Three samples of first grade children were originally identified. The Primary Head Start sample of 58 children had been subjects in a previous study by Cawley. The Secondary Head Start group of 77 children had attended Head Start but were not part of the previous study. These children were selected because their names alphabetically followed the Primary Head Start children on the school roster. The third group consisted of 78 subjects whose names followed the secondary group but who had not attended Head Start. Comparisons among the groups in first grade revealed no significant differences on the Stanford-Binet IQ test, the Illinois Test of Psycholinguistic Abilities, the Detroit Test of Learning Aptitude, or the Metropolitan Readiness Tests. Scores for all children were below age norms.

These investigators conducted a follow-up of these children at sixth grade. From 57 percent to 87 percent of the three groups were identified for the follow-up. An attrition analysis revealed no significant differences at pretest between those dropping out and those remaining in the sample.

The authors found 9.5% of the pooled Head Start samples to have been retained in grade compared to 22% of the non-Head Start sample. Five percent of the Head Start sample had been placed in special education classes compared to 10% of the non-Head Start sample. No differences were found between the Head Start and non-Head Start groups on IQ or achievement tests at sixth grade.

Bee, in her 1981 dissertation study, examined the effects of Head Start on 60 children, comparing them to 60 who were Head Start eligible but had not attended. The study was conducted in Sioux Falls, South Dakota. Three cohorts of 40 children each were involved. In 1981, these children were in kindergarten, first and second grades. The subjects were selected randomly from Head Start attendance and waiting list records. Retention in grade rates varied for the three cohorts. In the kindergarten group, there was no difference between Head Start and non-Head Start children. For the first-graders, more non-Head Start than Head Start children were retained but the difference was not statistically significant. For the second graders, the non-Head Start children were retained significantly less often than the Head Start children.

On the measure of assignment to special education classes, for the kindergarten group, one more Head Start than non-Head Start child was placed for a non-significant difference. For the first and second graders, more non-Head Start than Head Start children received special placement but the differences were not significant. The author found no significant differences between the Head Start and non-Head Start groups on the Metropolitan Readiness Test.

It should be noted that Bee's study is one of the few in this data base in which Head Start children attended the program after 1975.

After the meta-analyses contained here were completed, follow-up data on the Miller (1969) study was received. Despite its non-comparable control group, results at seventh grade show higher percentages of control children placed in special education and retained in grade than Head Start children although the differences are not significant.

Table 3-1 presents results of the meta-analysis for grade retention by study and time after Head Start. Effect sizes are coded so that positive effects indicate fewer grade retentions of Head Start children. Grade retention is measured at 10, 22 and 34 months after the program by Bee, over five years later (64 months) by Cawley and Goodstein, and 14 years later (168 months) by Monroe. Of the six comparisons made by these studies, all but two show positive effects for Head Start. Fewer Head Start children were retained in grades up to 14 years after Head Start. Only Bee found no effect for Head Start the first year after the program (10 months), and three years after the program (34 months) she found a negative effect for Head Start (i.e., more Head Start children retained). The general trend, however, appears to favor Head Start.

Table 3-1

Grade Retention: Effect Sizes by Time After Head Start

Study	Months After Head Start	Effect Size*
Bee, 1981	10	0
	22	1.12
	34	-1.29
Cawley and Goodstein, 1966	64	.63
	64	.45
Monroe, 1981	168	.31

*Effect sizes are coded so that a positive number means fewer Head Start children retained in grades.

The findings for special education placement are similarly positive. Except for one comparison by Bee (10 months after Head Start) all effects are positive, indicating fewer Head Start children were placed in special education classes up to 14 years after the program (Table 3-2). Although these findings are based on few studies, they suggest that participation in Head Start is related to progress in school. These findings are also consistent with those of evaluations of other types of preschool programs such as the Perry Preschool project and programs investigated by the Consortium for Longitudinal Studies.

Table 3-2

Special Education Placement: Effect Sizes by Time After Head Start

Study	Months After Head Start	Effect Size*
Bee, 1981	10	-.19
	22	.65
	34	.29
Cawley and Goodstein, 1966	64	.45
	64	.12
Monroe, 1981	168	.56

*Effect sizes are coded so that a positive number indicates fewer Head Start children placed in special education classes.

Summary of Meta-Analysis of Cognitive Effects

The immediate and long-term effects of Head Start on cognitive development were examined using meta-analysis. Four outcome measures--IQ, academic achievement, school readiness and measures of school success--were examined. A global cognitive measure was computed by averaging the outcome measures for each study. Separate analyses were conducted for pre/post and treatment/control studies. The findings of these analyses are summarized below.

Strong, immediate Head Start effects have been found regardless of research design, study quality or outcome measure. Children show mean gains of one-quarter to one-half a standard deviation when measured at the conclusion of the Head Start program. Pre/post studies show this effect is maintained through the first year after Head Start. Treatment/control studies show that the effects begin to diminish at that time although positive effects are still present. By the second and particularly the third year after the program, the differences between Head Start and control groups have largely disappeared so that Head Start and control children score at the same levels.

This pattern is seen for intelligence and achievement measures and to a lesser extent for school readiness measures. Effects on school readiness measures appear to decline at a more gradual rate for Head Start children during the first year, although differences between the two groups have essentially disappeared after two years. There is some evidence of long range benefit found on grade retention and special education placement measures up to 14 years after Head Start. Head Start children show fewer retentions in grade and fewer special education placements than controls, even when measured in high school.

These results suggest that while cognitive test score superiority obtained during Head Start is not maintained, Head Start children may have developed the desired social competence so that they can progress in school, stay in the mainstream, and satisfy teachers' requirements better than their peers who did not attend.

The reader is once again cautioned regarding the data limitations discussed in Chapter II. In particular, it should be recalled that our findings are based on few studies; only eight studies examined Head Start's effects beyond the second year. The possibility of non-comparability of treatment and control groups (Campbell and Erlebacher, 1970) is also to be recalled. This seems especially pertinent in light of the finding that the psychometric measures (e.g., IQ tests) show declining effects of Head Start over the years, while the measures of school success, although few in number, show lasting effects of the program. It is unfortunate that more studies did not examine these school success measures.

NARRATIVE REVIEW OF INTERMEDIATE AND LONG-TERM HEAD START FINDINGS

To provide the reader with comprehensive information on both the meta-analysis studies, and other uncodable studies in our data base we present here a descriptive, narrative review of all available long-term studies. Thirty-three studies were available for the narrative review, which is divided into sections on intermediate-term studies in which follow-up is through second grade or less and long-term studies with follow-up past second grade. The findings present a mixed picture of the longevity of effects on such measures as intelligence and achievement tests and indicators of school success. Some show effects are maintained, others show them fading with time. Tables 3-3 and 3-4 summarize the findings reported in these two sections. Studies that report both intermediate and long-term findings are included in the second (long-term) section of the narrative, while their results are split as appropriate between the two tables. In the interest of brevity, only major findings are discussed here. Not all measures that were coded (for the codable studies) are included.

Intermediate-Term Studies (Follow-Up Through Second Grade or Less)

Erickson et al. (1969) studied the effect of different preschool experiences on children's cognitive test scores. Inner-city children eligible to

Table 3-3

Longitudinal and Follow-Up Studies of Cognitive Impacts Through Second Grade: Head Start/Control Comparisons by Measure

INTELLIGENCE TESTS AND MEASURES OF SCHOOL SUCCESS

	Performance of Groups		
Study Author	Head Start Graduates Superior	No Significant Difference	Controls Superior
*Abelson et al. Beginning of Kindergarten	On Peabody Picture Vocabulary Test (PPVT)		
End of Kindergarten		On PPVT	
End of First Grade	On PPVT		
Asch and Zimiles Kindergarten		On Wechsler Preschool and Primary Scale of Intelligence	
Bee Kindergarten, First and Second Grade		On special education placement	On retention in First Grade
Borden End of Second Grade		On Slosson IQ Test	
Cawley et al. Kindergarten		On Draw a Man Test and PPVT	
Cunningham and Pierce-Jones Beginning of First Grade		On Standford-Binet (Controls may have been more advantaged.)	
End of First Grade		On Stanford-Binet	
Erickson et al. End of Kindergarten--regular kindergarten	On IQ--Head Start vs. no preschool		On IQ--Head Start vs. Bereiter-Engelmann preschool
End of Kindergarten--Bereiter-Engelmann kindergarten		On IQ--Head Start vs. no preschool	On IQ--Head Start vs. Bereiter-Engelmann preschool
	Note: Findings tested for significance of rank order among groups rather than differences among scores.		
Handler Second Grade		On promotions to first and second grade--Head Start vs. no preschool	On promotions to first and second grade--Head Start vs. day care
Hartford City Mid-Kindergarten	On PPVT		

*Reviewed in section on long-term studies.

Table 3-3 (Continued)

Longitudinal and Follow-Up Studies of Cognitive Impacts Through Second Grade: Head Start/Control Comparisons by Measure

INTELLIGENCE TESTS AND MEASURES OF SCHOOL SUCCESS (continued)

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Larson Post-Kindergarten		On Stanford-Binet Intelligence Test	
Post First Grade		On Stanford-Binet Intelligence Test	
Montgomery County First Grade		Statistical significance not determined.	
Nash and Seitz Kindergarten	Full-day Head Start graduates superior to half-day Head Start graduates on Wechsler Intelligence Scale for Children and PPVT. "No fade out effect for either group"		
Nummedal and Stern Post-Kindergarten and First Grade		On WPPSI or WISC	

*Studies reviewed in Intermediate-Term Studies. Remainder are reviewed in Long-Term Studies.

Table 3-3 (Continued)

Longitudinal and Follow-Up Studies of Cognitive Impacts Through Second Grade: Head Start/Control Comparisons by Measure

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Abt Associates Kindergarten for Non-southeastern U.S. children; First Grade for Southeastern Children		On Wide Range Achievement Test (WRAT). (White controls were more advantaged than white Head Start graduates.)	
Arnoult First Grade	On Illinois Test of Psycholinguistic Abilities		
Borden et al. First Grade		On reading, math or spelling achievement	
Post-Second Grade	On Stanford Achievement Test	On WRAT	
Cawley et al. Kindergarten		On Detroit Tests of Learning Abilities (DTLA) or Illinois Test of Psycholinguistic Abilities (ITPA)	
First Grade		On DTLA, ITPA, Developmental Test of Visual Perception	
*Clark Kindergarten	On Vocabulary and Reading Achievement Subtests		
Cunningham and Pierce-Jones End of First Grade		Gates-MacGinnite Reading Test	

*Reviewed in section on long-term studies.

Table 3-3 (Continued)

Longitudinal and Follow-Up Studies of Cognitive Impacts Through Second Grade: Head Start/Control Comparisons by Measure

ACHIEVEMENT TESTS (continued)

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Erickson et al. End of Kindergarten--regular kindergarten	On math indicators--Head Start vs. no preschool	On reading and spelling--Head Start vs. no preschool	On math, reading and spelling--Head Start vs. Bereiter-Engelmann preschool
End of Kindergarten--Bereiter-Engelmann kindergarten		On math--Head Start vs. Bereiter-Engelmann preschool	
		On math, reading and spelling--Head Start vs. no preschool	On reading and spelling--Head Start vs. Bereiter-Engelmann preschool
	Note: Findings tested for significance of rank order among groups rather than differences among scores.		
High/Scope First Grade		On reading and math achievement. (Controls were more advantaged.)	
Hulan Post-Kindergarten		On Stanford Early School Achievement Test. (Controls may be more advantaged.)	
Johnson Pre-First Grade		On 5 of 6 Stanford Achievement Test	On one subtest of SAT
*Kanawha County Kindergarten		On Comprehensive Test of Basic Skills (controls came from same kindergartens, equivalence is unknown)	
Post-First Grade		On two subtests of Stanford Achievement Test (SAT)	On 4 of 6 subtests of SAT
Miller and Dyer First Grade	To children in other Title I schools and above or equal to city norms (including middle-class children); equal to national norms on California Achievement Test		

*Reviewed in section on long-term studies.

Table 3-3 (Continued)

Longitudinal and Follow-Up Studies of Cognitive Impacts Through Second Grade: Head Start/Control Comparisons by Measure

ACHIEVEMENT TESTS (continued)

	Performance of Groups		
Study Author	Head Start Graduates Superior	No Significant Difference	Controls Superior
*O'Piela First Grade	On SAT		
Second Grade	On SAT		
*Philadelphia School District First and Second Grade	On reading and math on Stanford Early School Achievement Test and California Achievement Test in comparison to total city school population		
Westinghouse Second Grade		On Stanford Achievement Test	

*Reviewed in section on long-term studies.

Table 3-3 (Continued)

Longitudinal and Follow-Up Studies of Cognitive Impacts Through Second Grade:
Head Start/Control Comparisons by Measure

READINESS TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Abelson End of Kindergarten		On Screening Test of Academic Readiness	
Allerhand Kindergarten		On Preschool Inventory	
Bee		On Metropolitan Readiness Test	
Cowley et. al First Grade		Metropolitan Readiness Test	
Cunningham and Pierce-Jones Beginning of First Grade		On 3 parts of Preschool Inventory	On 1 part of Preschool Inventory (Controls may have been more advantaged.)
Handler Kindergarten		On 3 parts of Preschool Inventory	On 1 part of PSI
First Grade		On Cooperative Primary Listening Test	
Johnson Pre-First Grade	On First Grade Screening Test		
Larson Post-Kindergarten		On two sub-tests of Murphy-Durell Reading Readiness Test	On one subtest of Murphy-Durell
Montgomery County District First Grade	Black girls on 1 part of Metropolitan Readiness Test when ability level is controlled and those with poor Head Start attendance are exluded	all other MRT comparisons	
Miller and Dyer Post-Kindergarten	DARCEE, Montessori and Traditional groups on Preschool Inventory	Berister Engelmann group on Preschool Inventory	
Monroe and McDonald First Grade	On Metropolitan Readiness Test		
Westinghouse First Grade	On Metropolitan Readiness Test		

*Reviewed in section on long-term studies.

enter Head Start were assigned randomly to a regular Head Start program (n=180), a preschool program operating on the language-focused Bereiter-Engelmann model (n=180), or a pool of no-preschool controls (n=640). At the end of the preschool year, two-thirds of the Bereiter-Engelmann and two-thirds of the Head Start children (n=120 each), along with a probability sample from the control pool (n=60), were assigned to Bereiter-Engelmann kindergartens. Sixty children from each preschool program and 120 from the control pool were assigned to regular kindergartens. The study thus involved six groups of children, one for each preschool/kingergarten combination. At the end of kindergarten, probability samples of 28 to 30 children from each group were tested on the Stanford Binet and the Wide-Range Achievement Test for reading, spelling and math. In regular kindergarten programs, children with Head Start experience scored better than children with no preschool experience on IQ and math indicators and the same on reading and spelling, while scoring below children from Bereiter-Engelmann preschools on all four indicators. In Bereiter-Englemann kindergartens, those with Head Start backgrounds scored the same as those with no preschool on all four indicators, the same as Bereiter-Engelmann preschoolers on math, and below Bereiter-Engelmann preschoolers on IQ, reading and spelling.

The Hartford City Board of Education (1973) evaluated the progress of the 420 children who attended Head Start in the early 1970's. The Peabody Picture Vocabulary Test (PPVT) was administered to 300 children in October 1971. In March 1973, 125 of those children were identified in the school system kindergarten and retested. The Head Start children were 13 months below their chronological age in 1971 and 10 months below in 1973. However, the Head Start children scored significantly higher on the PPVT in 1973 than 717 kindergarteners from seven Hartford inner-city schools.

Nash and Seitz (1975) followed 29 children, half of whom attended a full-day Head Start kindergarten while the other half attended a half-day kindergarten. They were compared to 20 children attending private kindergartens. All had attended full-day Head Start at age four. For those who attended the two public programs, the full-day children were significantly higher on the Peabody Picture Vocabulary Test (PPVT), color-form attention task, box maze measure of variation seeking, graduated peg task of structuring tendency, and Wechsler Intelligence Scale for Children (WISC) block design at the end of the kindergarten year. The authors believed the results showed "no indication of fade out effects for either the control group which left the Head Start program at the kindergarten level or for the experimental group which left the program to enter first grade" (p. 34).

Asch and Zimiles (1970) compared Wechsler Preschool and Primary Scale of Intelligence (WPPSI) scores of 20 kindergarten children who had been Head Start pupils in 1967-68 with those of 20 kindergarten children in the same school who had not had Head Start experience. As a group, the non-Head Start children had more educated parents and far fewer siblings than those with Head Start backgrounds. Test results showed that the Head Start group averaged seven points higher in IQ than the non-Head Start children, although the difference was not statistically significant. Mean scores of the two groups on the individual verbal and performance subtests of the WPPSI differed by less than two points, with the difference favoring the Head Start group on eight of ten scales.

Allerhand (1966) tested two groups of children at the beginning and end of kindergarten on the Preschool Inventory. The tests showed that both the children who had attended Head Start and those who had not attended achieved significant academic progress during kindergarten. The Head Start group showed a greater gain than the controls but the difference was not significant.

Abt Associates (1978) studied a stratified random sample of 656 children in 32 sites who had attended Head Start in 1976 comparing them to 670 non-Head Start children, 357 of whom had no preschool experience. The children were in kindergarten or first grade at the time of the study. (The 210 children in the southeastern U.S. were about ten months older than children in other regions.) Black Head Start graduates scored 4.3 points higher than their black no-preschool peers on the Wide Range Achievement Test (WRAT). White Head Start graduates scored 4.1 points below their white no-preschool peers. The authors caution that while the two black groups were roughly comparable on demographic variables, the white no-preschool group members were more likely than the Head Start children to have mothers with higher educational levels, to come from two-parent families, and to come from families with incomes averaging $4,000 more than the Head Start families.

Johnson (1971) compared 137 children who had attended Head Start in Brevard County, Florida, to 141 of their peers at entry to first grade. The Head Start children scored significantly higher on the First Grade Screening Test but the controls scored significantly higher on the word meaning subtest of the Stanford Achievement Test.

Cunningham and Pierce-Jones (1969) compared standardized test scores for 73 first graders who had attended a Head Start program and 74 first graders who had been eligible for Head Start participation but did not enroll. The researchers noted that Head Start participants were selected from the most deprived of those eligible, so that the two groups may not have been comparable in important regards. Upon entrance to first grade there was no significant difference in Stanford-Binet scores of the two groups, while the non-Head Start children scored significantly higher on one of four parts of the Preschool Inventory. At the close of first grade there were no significant differences between the groups on Stanford-Binet, Preschool Inventory, or Gates-MacGinitie Reading Test (Primary A) scores. An examination of between-test gains on the two repeated measures revealed that the Head Start group showed significantly greater gains during the first grade than the non-Head Start children on two parts of the Preschool Inventory.

Arnoult (1972), using the Illinois Test of Psycholinguistic Ability, compared scores for 60 Gretna, Louisiana, first graders who had attended Head Start with those of 60 first graders without Head Start experience. All children were between 6 years 1 month and 6 years 5 months of age, with IQs between 95 and 105. Each group had 15 black girls, 15 white girls, 15 black boys and 15 white boys. Both black and white students with Head Start backgrounds scored significantly better than their counterparts without Head Start.

Nummedal and Stern (1971) compared 102 children who had Full Year Head Start (FYHS) experience in 1967-68 under three different types of agencies and 39 children who did not have Head Start experience in a follow-up study conducted during the children's first primary school year in 1968-69. Those children who were completing kindergarten were administered the Wechsler Preschool and Primary Scale of Intelligence (WPPSI); those completing first grade were given the Wechsler Intelligence Scale for Children (WISC). No differences in intellectual functioning were found between the non-Head Start and total FYHS groups. Comparisons of the children also were made according to which agency had operated the Head Start program attended by the FYHS children (community action program--CAP--and two different local education agencies). The only difference found was that the Non-Head Start group showed superior performance over the FYHS CAP group on the WPSSI. Control children differed from the Head Start group in ethnicity and higher education level of parents, however. The authors also examined Stanford-Binet pre and posttest scores with the WPPSI follow-up scores for 60 FYHS children according to agency operating the Head Start program. There was a significant decrease in intellectual functioning one year following Head Start for two of the three groups of children, only one of which had experienced gains over the Head Start year. The findings tentatively suggest that educational programs focusing on socioemotional rather than cognitive development do not produce or maintain gains.

Borden et al. (1975) compared two cohorts of children who attended Head Start and Follow Through in Tupelo, Mississippi, to a comparison group that attended Follow Through only. No significant differences among groups were found on reading, math or spelling achievement in first grade. However, at the end of the second school year, the second Head Start cohort scored significantly higher than the first Head Start cohort or the controls on the Stanford Achievement Test's reading, arithmetic and spelling subtests. Differences on the WRAT subtests and the Slosson IQ test were not significantly different. Both the Head Start and Follow Through programs used behavioral teaching techniques.

Hulan (1972) compared the test scores of 80 children who had attended Head Start in 1969-70 to scores of 242 children who lived in the same neighborhoods and attended the same kindergarten classes the next year. The Stanford Early School Achievement Test was administered to all the children in the spring. There were no significant differences between the two groups. The author interprets this result as evidence that the Head Start children "demonstrated achievement equal to that of their more affluent counterparts from the same neighborhood schools." As all the children were from the same Title I schools, the degree of greater affluence for the comparisons is probably slight.

Larson (1972) found that Head Start children in rural Minnesota gained significantly on the Stanford-Binet IQ test over a year while control children did not. At the end of kindergarten there were no significant differences between Head Start graduates and controls on the Stanford-Binet. Significant differences favoring controls were found on the learning rate subtest of the Murphy-Durrell Reading Readiness Analysis, but not on letter sounds or letter names tests. At the end of first grade there were no significant differences on the Stanford-Binet, but the Head Start graduates scored significantly lower than randomly selected nonpreschool-attending controls on four of six subtests of the Stanford Achievement Test.

Cawley et al. (1970) compared two groups of Head Start graduates who had attended the program in the mid-1960's to children who had not attended. They found no significant differences among the groups at kindergarten or first grade on the Peabody Picture Vocabulary Test, the Detroit Tests of Learning Aptitudes, or the Illinois Test of Psycholinguistic Abilities with all groups scoring in the low average or below average ranges.

The Montgomery County (Maryland) Public Schools (1970) collected data in the spring of 1969 on former Head Start students then in first grade, and on non-Head Start first graders selected by their teachers as having abilities and home backgrounds comparable to their Head Start classmates. On the Stanford Achievement Battery (n=161 former Head Start, 177 non-Head Start) and the Test of Basic Experiences (n=169 Head Start, 178 non-Head Start), differences in scores favored the non-Head Start group but were small for all subtests. No tests of statistical significance were used. When 95 pairs of former Head Start and non-Head Start first graders were matched on gender and race, their scores on these tests tended to favor black Head Start over black non-Head Start and white non-Head Start over white Head Start students, although differences were generally small.

In the fall of 1969, Montgomery County (same study as above) administered two of four subtests--either social studies and math or science and language arts--of the Test of Basic Experiences to selected kindergarten classes. While the number of students taking each subtest varied, an average of 112 former Head Start and 99 non-Head Start pupils took each pair. The differences in scores were generally slight and inconsistent and tended to favor non-Head Start children. The exceptions were that black Head Start girls outscored black non-Head Start girls on all four subtests; the differences between white non-Head Start boys and white Head Start boys in science and language arts were greater than five points; white non-Head Start girls outscored white Head Start girls in language arts by four points; and black Head Start boys did better than black non-Head Start boys on social studies by nearly five points. No tests of the significance of these differences were done.

Continuing its fall 1969 data collection efforts, Montgomery County gave the Lorge-Thorndike Intelligence Test (L-TIT) and the Metropolitan Readiness Test (MRT) to all first graders who had been in Head Start (n=170) and a group of non-Head Start first graders (n=189) selected to be comparable in ability and home background to the Head Start group. The non-Head Start group generally outscored the Head Start children. Most notably, non-Head Start boys scored nine points higher than Head Start boys on the L-TIT and 10 points higher on the composite MRT. Statistical significance of the differences was not tested. When the ability level of students as measured by the L-TIT was controlled through an analysis of covariance, the differences in school readiness measured by the MRT subtests and composite were statistically insignificant. The research team then dropped from the analysis all former Head Start students who had missed more than 25% of the scheduled days of their Head Start programs, leaving 106 Head Start pupils in the sample. A second analysis of covariance found black Head Start girls scoring significantly better than black non-Head Start girls on one MRT subtest. No other differences were statistically significant.

Bee (1981) studied 60 children who had attended Head Start in Sioux Falls, South Dakota, comparing them to 60 who had not attended. She examined their rates of special education placement and retention in grade and their performance on a readiness test from 1977-1980. She found no significant differences between the two groups on special education placement or Metropolitan Readiness Test scores. Head Start children were retained in grade significantly more often than the non-Head Start children in first grade only.

In a follow-up study of Head Start comparison children in the Home Start program evaluation, there were no differences between Head Start and Home Start children in first grade on math and reading achievement tests or on tests of locus of control, social attitude and social problem solving. Though the data could not be analyzed statistically because of noncomparability of groups, the Head Start children scored slightly below a more advantaged comparison group on math and reading (High/Scope, 1979).

Handler (1972) examined school records of those second grade children in 16 elementary schools from one school district who had attended a preschool program during the 1966-67 school year. Some of the children (a total is not given and a different n is reported for each finding) had participated in Head Start programs and some had attended subsidized day care centers that provided custodial care for children of employed mothers. The comparison group data were extracted from records for children who had no preschool experience even though their area of residence qualified them for subsidized care. Handler found that, as kindergarteners, the day care children scored significantly higher than both Head Start and no-preschool children on one of four subtests of the Caldwell Preschool Inventory, with no significant differences found on the other subtests. The Cooperative Primary Listening Test revealed no significant differences among the children as first graders. Unconditional promotions to both first and second grade had been received by a significantly greater proportion of day care children than Head Start children, while equal proportions of Head Start and no-preschool children were unconditionally promoted.

The Westinghouse, Ohio University study (1969) cited earlier, examined 1,980 children who had attended 104 Head Start programs across the country. These children were in first, second and third grades at the time of the study and were matched with Head Start-eligible children who had not attended. Graduates of both summer and full year programs were tested. The study found that full-year programs were marginally effective in producing gains in cognitive and affective development that persisted into the early primary grades. Head Start children performed significantly better than their peers on the Metropolitan Readiness Test in the first grade. On the Stanford Achievement Test and the Illinois Test of Psycholinguistic Abilities at second and third grades respectively, there were no significant differences between the Head Start and control groups.

Summarizing the findings of these studies is difficult because various measures were used, subgroups of children in the same study sometimes performed differently, and results in a single study may vary from year to year (See Table 3-3). When the early-grade test results of long-term studies (discussed in the next section) are included, five studies report that Head Start graduates scored significantly higher on achievement tests than their elementary school peers. Another eight studies found either no achievement test differences between Head Start students and controls, or no differences in some instances and Head Start superiority in others. In two studies there were no differences on some achievement measures and differences favoring controls on others, but no study reported consistently superior performance by controls. One study had findings that covered the range of possibilities.

Results of intelligence tests follow the same pattern, with performance of Head Start graduates being superior to controls in two studies and equal or superior in seven studies. One study found controls to score higher than Head Start students. On readiness measures, Head Start children were clearly superior in four studies. There were no significant differences between groups in seven studies with mixed scoring in two of these that sometimes favored controls.

Only two studies measured school success. In one, Head Start and comparison group results were equivalent. In the other, Head Start children performed as well as children with no preschool background, but not as well as children who had attended a day care program.

Four of these studies used controls that were more advantaged than the Head Start children on such indices as family income, parental education, or family size. Such differences were discovered post hoc, after the testing had been completed. These differences make valid conclusions difficult, but certainly bias comparisons in favor of controls.

Long-Term Studies (Follow-Up Past Second Grade)

The studies presented below examined the effect of Head Start through the high school years. They are summarized in Table 3-4.

Wooldridge (no date) examined the Stanford-Binet (Form L-M) and Peabody Picture Vocabulary Test (PPVT) scores of five groups of Tuscumbia, Alabama, children with Head Start experience. Group 1 (n=26) consisted of 4-year-olds in Head Start for the first time in 1969-70. Group 2 (n=54) were 5-year-olds in the 1969-70 Head Start program, 18 of whom had had a prior year in Head Start in 1968-69. For the 18 second-year Head Start children in Group 2, test scores from the end of their first Head Start year (June, 1969) were used. Group 1 and the 36 Head Start novices in Group 2 were tested in September, 1969. All Group 1 and Group 2 children were retested in May, 1970. Groups 3, 4 and 5 consisted of first, second and third grade students from three Tuscumbia elementary schools. Group 3 children (n=83) had been in Head Start in 1968-69 and were in first grade in 1969-70. Group 4 (n=50) were second graders in 1969-70 with Head Start experience in 1967-68. Group 5 (n=32) had been in

Table 3-4

Longitudinal and Follow-Up Studies of Cognitive Impacts Through High School: Head Start/Control Comparisons by Measure

INTELLIGENCE TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Abelson et al. Third Grade		On Peabody Picture Vocabulary Test (PPVT)	
Miller Seventh Grade		On WISC-R	
Seitz et al. Third Grade	Girls on PPVT	Boys on PPVT	
Fifth Grade	Girls on PPVT	Boys on PPVT	
Eighth Grade	Girls on PPVT	Boys on PPVT	
Wooldridge First, Second, Third Grade	On Stanford-Binet and PPVT (significant pre/post gains; no comparison group)		

ACHIEVEMENT TESTS

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
Clark Fourth Grade		Vocabulary and Reading Achievement Skills	
ETS Third Grade		High performers on achievement tests	On reading and math (may not be significantly different from Head Start graduates)
Goodstein et al. Sixth Grade		Achievement tests	
Kanawha County Third Grade		On Comprehensive Test of Basic Skills (CTBS)	
McDonald and Monroe Third Grade	Achievement tests		
Fifth Grade	Achievement tests		
Eighth Grade		Achievement tests	

Table 3-4 (Continued)

Longitudinal and Follow-Up Studies of Cognitive Impacts Through High School:
Head Start/Control Comparisons by Measure

ACHIEVEMENT TESTS (Continued)

Study Author	Performance of Groups		
	Head Start Graduates Superior	No Significant Difference	Controls Superior
O'Piela Third Grade	On Iowa Test of Basic Skills		
Fourth Grade	On Iowa Test of Basic Skills		
Philadelphia School District Third to Fifth Grades	Achievement Tests (controls were more advantaged)		
Kindergarten to Sixth Grade (Welsh)		Statistical significance not determined	
Kindergarten to Third Grade (McNamara)		Statistical significance not determined	
Fourth to Seventh Grade (McNamara)		Statistical significance not determined	
Pinkelton Fourth Grade		Achievement measures Language processing	
Seitz et al. Third Grade	Girls on 1 subtest of Peabody Indvidual Achievement Test (PIAT)	Boys on 4 of 5 PIAT subtests; girls on 4 of 5 PIAT subtests	Boys on PIAT math
Fifth Grade	Girls on 1 subtest and total PIAT	Girls on 4 PIAT subtests; boys on PIAT	
Seventh Grade	Girls on 1 PIAT subtest	Girls on 1 of 4 PIAT subtests; boys on 4 of 5 PIAT subtests	Boys on PIAT math
Westinghouse Third Grade		On Illinois Test of Psycholinguistic Abilities	

Table 3-4 (continued)

Longitudinal and Follow-Up Studies of Cognitive Impacts Through High School: Head Start/Control Comparisons by Measure

MEASURES OF SCHOOL SUCCESS

	Performance of Groups		
Study Author	Head Start Graduates Superior	No Significant Difference	Controls Superior
ETS Third Grade	High performance on retention in grade		
Cawley, Burrows & Goodstein Through Sixth Grade	Special Education Placement and Retention in Grade		
McDonald and Monroe Through Twelfth Grade	Graduation from high school; retention in grade; special educaton placement		
Miller Through Seventh Grade		On retention in grade, assignment to special education (controls were more advantaged)	
Ross Through Fourth Grade	To non-Head Start siblings on teacher ratings of intelligence, language arts, and arithmetic	On same measures with more advantaged general school population	

Head Start in 1966-67 and were in third grade in 1969-70. The dates of testing for Groups 3, 4 and 5 are not reported. The researcher reported that both black and white students in all five groups showed significant improvements on both measures from first to second time of testing.

Abelson et al. (1974), working in New Haven, Connecticut, analyzed data collected on 35 economically disadvantaged children through all 4 years (K-3) of "Follow Through," a compensatory education program for both former Head Start and non-Head Start children. The researchers compared this group with 26 disadvantaged children in non-Follow Through classrooms during the same period. Thirty-two of the Follow Through and seven of the non-Follow Through children had attended a Head Start program. At the beginning of kindergarten, children from both groups who had been in Head Start scored significantly higher on the Peabody Picture Vocabulary Test (PPVT) than those who had not. At the end of kindergarten, differences in PPVT performance were not significant. At the end of first grade, children with both Head Start and Follow Through experience did significantly better on the PPVT than those with neither Head Start nor Follow Through in their backgrounds. Head Start boys without Follow Through did as well as Head Start boys with Follow Through, while Head Start girls without Follow Through scored between girls with both educational experiences and girls with neither experience. By grade 3, no differences in PPVT scores could be attributed to Head Start. Head Start attendance had no effect on measures of school readiness or academic achievement administered during the 4-year program. These data were extended in work by Seitz et al. (1978), reported below.

In a study of 65 New Haven, Connecticut, children who had attended Head Start and Follow Through, Seitz et al. (1978) conducted several analyses of only those children who had attended Head Start. Head Start girls were superior to non-Head Start girls in tests of general information and intelligence in the third grade and on achievement and intelligence in the fifth grade. However, Head Start boys performed significantly worse than control boys on math achievement in the third and seventh grades, with no differences on other measures of achievement or intelligence.[6]

Ross (1972), in a study of Head Start graduates in the Seattle public schools through grade four, asked teachers to rate these children, their peers, and the Head Starters' siblings on a variety of developmental characteristics. He found no significant differences between the Head Start children and the general school population including children of higher socioeconomic status on general intellectual development, though the effect was less pronounced in language arts and arithmetic skills. Both the Head Start children and the general school district population were rated significantly higher than the non-Head Start siblings on these scores.

---

[6] Additional data on Head Start graduates who also attended Follow Through are contained in a series of reports by Abt Associates (Abt Associates, 1976, 1977). Because those researchers were interested in Follow Through effects, Head Start effects are difficult to access in the reports and thus are not included here. Interested readers are referred to an examination of these effects in Collins, 1981, op. cit., and to the reports themselves.

Results of a 1972-1975 follow-up of Detroit children who had attended Head Start in 1969-70 are reported by O'Piela (1976). Head Start graduates scored signficantly higher than children in regular Title I programs on math and reading achievement tests through the fourth grade.

Clark (1979) compared a different cohort of Detroit children who had attended Head Start to those who had attended a Title I preschool, following them through the fourth grade. She found "positive effects for Head Start students on vocabulary and reading achievement measures at both kindergarten and fourth grade levels." However, children in the Title I group showed no gains over nonparticipants for both years, and no significant differences were found between Head Start and Title I children for either year.

Goodstein et al. (1975) followed an older cohort of Head Start children in Hartford who had participated in Head Start in 1966. They found that "a significantly smaller percentage of Head Start children than non-Head Start children had been placed in special education classes or retained in grade" by the sixth grade (pp. 11-12). There were no significant differences between the two groups on academic achievement, however.

In an impressive collection of studies (Philadelphia School District, 1976, 1977, 1978, 1981), the Philadelphia School District evaluated the progress of children attending its variety of preschool programs, including Head Start. Though the measures used differed over the years and the results are not presented in statistical terms, the reports represent a wealth of information on a large number of children. For the 1981 evaluation, six cohorts of children up to the fifth grade were studied. The authors report the Head Start children "score close to or better than their counterparts in the school district on standardized tests through grade five" (p.10). This was true even though the general school population contained 55 percent AFDC recipient families and the Head Start sample was 98 percent AFDC recipients. Comparing the Head Start children to another Philadelphia preschool program--Get Set Day Care, a full-day program--the authors found more Get Set children scored above the fiftieth percentile on reading in kindergarten, first and second grades and in math at kindergarten. Children who attended either prekindergarten had higher percentages scoring at or above national norms in reading and math through the second grade than children not attending prekindergarten.

For the Philadelphia School District, Welsh (1976) examined annual achievement test scores for children in kindergarten through grade 6 who had as much experience in the K-3 Follow Through program as possible for their grade level (e.g., first graders with two years in Follow Through, third through sixth graders with four years in Follow Through). Between 40% and 55% of the children in each grade had been in Head Start or "an equivalent preschool experience." For Stanford Early School Achievement Test and California Achievement Test scores from the 1974-75 school year, Welsh considered the percentile ranks of mean scores, the percents falling below the national 16th percentile, and the percents falling at or above the national 50th percentile for those with and without preschool experience. In reading, preschool graduates scored better than those with no preschool experience on all three indicators in every grade except third, and on two of three indicators in grade 3. In math, preschool graduates scored better than those with no preschool on all three criteria in kindergarten and grades 2, 4, 5 and 6, and on two of three indicators in grades 1 and 3. Welsh also compared the percentile ranks of mean test scores for preschool and no-preschool groups in grades K-5 from four consecutive academic years (1971-72 through 1974-75), and found that those with preschool experience did better in over half of the grades each year. Unfortunately, no significance tests were done on any of the test score differences found in this study.

McNamara (1978) prepared the Philadelphia School District's report on data from the 1975-76 and 1976-77 school years. Again, scores from the Stanford Early School Achievement Test (for kindergarteners) and the California Achievement Test (for grades 1-7) were examined for children who had been in the Follow-Through program for the maximum years possible given their current grade level. The percentages of children with Head Start or equivalent preschool experience who scored below the national 16th percentile and at or above the national 50th percentile were compared to percentages of children without preschool experience who met these criteria. For grades K-3 (the grades in which children can participate in Follow-Through), the preschool group had higher percentages meeting these criteria on two of six reading score comparisons and five of six math score comparisons. In grades 4-7, the preschool group did better in four of ten reading score comparisons and eight of ten math score comparisons. Again, tests of significance were not applied to the data.

Miller and Dyer (1975) conducted a well-designed study that directly compared 214 children in four different Head Start curricula to a 34-child control group. It should be noted that the control group differed from the experimentals on some important demographic variables: more controls lived with two parents, more controls were white children, and their average family income was higher. On the Preschool Inventory, a school readiness measure, all Head Start children scored significantly higher than controls immediately after Head Start. When measured more than one year later shortly before beginning first grade, three of the four classes of Head Start children continued to score higher than controls on this test. Children in the Bereiter-Engelmann Class scored higher than controls at this time, but not significantly so. In first grade, the Head Start children scored higher than children in Title I schools and equal to city-wide averages and national norms in the California Achievement Test. By the second grade testing, the superior performance of the Head Start children had disappeared and only the children from the Montessori program were equal to controls. In the 1977 follow-up, Miller found control children to score slightly higher than experimentals on the Wechsler Intelligence Scale for Children-Revised (WISC-R) but the difference was not significant. On retention in grade and assignment to special education, experimentals performed better than controls, but again the difference was not significant (Consortium for Longitudinal Studies, 1983).

Monroe and McDonald (1981) studied the progress of 130 children who had attended Head Start in Rome, Georgia, in 1965, comparing them to 88 who had not. In 1980 the school records were examined for these students, who were 18 years old at the time. Head Start graduates were superior on almost all measures. For those still in the sample, 50 percent of the Head Start graduates and 33 percent of the non-Head Start children had graduated from high school. The remainder in each group had dropped out. Fifty-one percent of the Head Start students had repeated a grade compared to 63 percent of the non-Head Start students. Eleven percent of the Head Start students had been placed in special education classes compared to 25 percent of the non-Head Start students. On the Metropolitan Readiness Test, administered during first grade, children with Head Start backgrounds scored well above the non-Head Start children. The difference was particularly notable between Head Start and non-Head Start students who eventually graduated from high school. Achievement test scores at grades three and five favored the Head Start children, but groups had the same median percentile at grade eight. The median percentile for both groups gradually declined over their school years until grade eight, when the median percentile for both groups on the Iowa Test of Basic Skills was nine percent.

Kanawha County (West Virginia) Board of Education (1978) compared children who had attended Head Start in 1973-74 to low-income children who had not attended. Though the Head Start graduates performed well at the end of the program, by the third grade there were no significant differences between the two groups on math and reading achievement tests.

Pinkelton (1976) studied 156 fourth graders in Cincinnati who had attended Head Start, comparing them to their non-attending peers. She found no differences between the two groups on measures of achievement, language processing or classroom behavior.

The most extensive Head Start longitudinal study, conducted by the Educational Testing Service (ETS, 1968-1976), followed 1,875 children and their parents in four locations beginning in 1968. Huge amounts of data were collected using a battery of developmental scales and tests. However, the study was designed to examine child development, not to examine the impact of Head Start on children. Thus, though control and comparison groups also were tested, data are not usually reported in ways that can be used to answer impact questions (neither experimental/control nor pre/post).

One report (ETS, 1976, Shipman, McKee, Bridgeman) does append a table showing third grade reading, math and Raven Progressive Matrices Scores for black Head Start subjects and black no-preschool subjects. Though significance levels are not reported, the no-preschool children scored higher on all three tests than did the Head Start children. ETS (1976, Shipman et al.) also reports selected data on high-performing and low-performing children (based on third-grade reading and math tests and their predictive Preschool Inventory scores). Although Head Start attendance did not differentiate among these children on the achievement test scores, the authors state that for these children "a higher percentage of black Head Start-eligible children who had not attended Head Start or any other preschool program were retained in the first or second grade" (p. 23) compared with those who did attend Head Start.

As was true for the studies of intermediate-term effects, these findings are complex to summarize (See Table 3-4). On achievement tests, Head Start children outscored controls in two studies, had scores equal to controls in five studies, and either equalled or outperformed controls in another. One study had findings of each type.

On intelligence tests, Head Start girls outperformed controls in one study, while there was no difference between some Head Start groups and controls in three studies. An additional study used no comparison groups.

On measures of success in school such as retention in grade, teacher ratings, placement in special education, and dropping out, Head Start graduates usually fare better. Head Start children performed better than their non-attending peers in four studies, and as well as more advantaged controls in two studies.

As with the meta-analysis, these results suggest that while academic test score superiority obtained during Head Start is not consistently maintained, Head Start children may have developed the desired social competence so that they can progress in school, stay in the mainstream, and satisfy teacher's requirements better than their peers who did not attend.

META-ANALYSIS OF EFFECTS OF PROGRAM AND CHILD CHARACTERISTICS ON COGNITIVE OUTCOMES

Variations in program characteristics, such as curriculum, and the characteristics of the children in the program have the potential for affecting cognitive development differently. We examine these differential effects in this section using meta-analysis. The program characteristics we examine include:

- program auspices;
- program hours per day;
- curriculum;
- language emphasis; and
- number of children per class.

Child development research, practice in the field, and the Head Start Performance Standards indicate that these factors can affect child outcomes.[7]

---

[7] Smith, A. and Spence, C. National Day Care Study: Optimizing the Day Care Environment. American Journal of Orthopsychiatry, 1980, 50, (4).

Miller, L. and J. Dyer. Four Preschool Programs: Their Dimensions and Effects. SRCD Monographs, 1975 40 (5-6).

Bronfenbrenner, U. Is Early Intervention Effective? Washington, DHEW, 1974.

Jencks, C. et al. Inequality: A Reassessment of the Effect of Family and Schooling in America. New York: Basic Books, 1972.

Family and child demographic characteristics are also related to cognitive performance. Thus, we also examine differential effects related to:

- socioeconomic status;
- pretest IQ level;
- minority composition of the class; and
- child age at enrollment.

We would have preferred to examine differential effects for a number of additional program and family variables and we coded many of them. However, our efforts to examine the effects of these characteristics were severely restricted by the paucity of adequate data. Since program and background variables were rarely the central focus of the study, researchers were often cryptic in their descriptions of these characteristics or failed to mention them altogether. Thus, we were limited by the information provided by the individual studies. The additional characteristics we coded are listed in the codebook in Appendix C. We coded characteristics only if they were explicitly described in the study. We did not guess about a variable, such as by assuming a program met five days a week.

For the following analyses on program and child background characteristics, we present the immediate findings for each characteristic separately for treatment/control and pre/post studies using the global cognitive measure. Too few studies were available to examine the cognitive outcome measures individually. In addition, preliminary analyses revealed little difference among the individual measures and the global measure.

We also examine long-term effects for the child background variables alone, using the treatment/control studies. Very few studies investigated program variables over time. While some long-term analyses were conducted (see Appendix E), no differences for any program variable were found. This is not surprising since it is unlikely that long-term differences would be evident for individual program characteristics. For these reasons, the focus of the analysis of program characteristics is to investigate variables that may have an immediate impact in the Head Start classroom, rather than on long-term effects of these program variables.

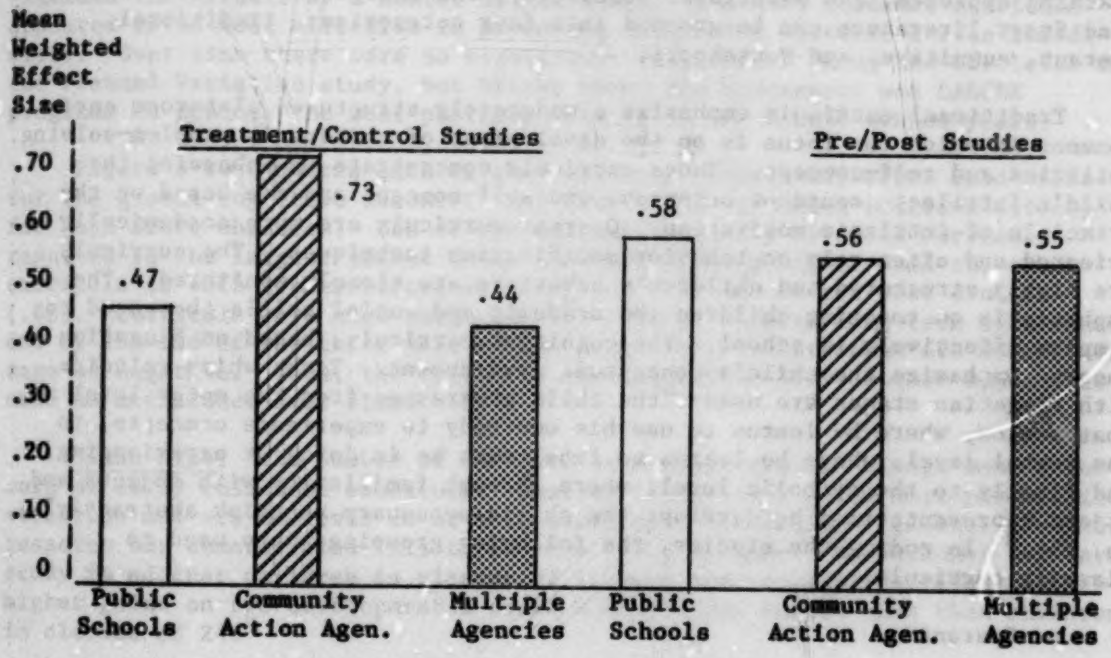
Program Characteristics

Auspices. Head Start programs are operated under the auspices of a variety of organizations. Community action agencies and public schools are two of the primary program operators. Head Starts are also operated by agencies established only to run Head Start programs, by other non-profit groups, by local governments, and by a combination of these organizations. Sufficient data are available only to examine the differential effects of public school, community action agency (CAA), and multiple program operators.

A comparison of the immediate post Head Start effects for these operators is shown in Figure 3-9 for both treatment/control and pre/post studies. The treatment/control studies show that there is essentially no difference in

Figure 3-9

Program Auspices:
Immediate Cognitive Effects for Treatment/Control
and Pre/Post Studies



N =	11	2	3	13	7	3
n =	16	3	5	20	12	6
SD =	.39	.15	.48	.33	.41	.30

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

immediate effects between programs run by public schools (.44) or multiple agencies (.47). Programs run by CAA's have a somewhat larger (.73) effect than both of the other programs. However, this finding is based on only two studies. The pre/post studies do not show this pattern, however, but produce the same effect for all three operators.

The findings for program operator indicate essentially no difference among programs operated under different auspices. The large treatment/control effect size for CAA programs should be cautiously interpreted because of the small study sample.

Curriculum. There is considerable variability in the types of curricula used in Head Start. The Performance Standards do not dictate that a particular curriculum be employed, thus local program operators have the option of selecting or developing their own curricula. These curricula vary widely in content, teaching approach, and materials. Generally, the curricula reported in the Head Start literature can be grouped into four categories: traditional, operant, cognitive, and Montessori.

Traditional curricula emphasize a moderately structured classroom environment in which the focus is on the development of children's problem-solving abilities and self-concept. These curricula concentrate on enhancing the child's intellect, sense of autonomy, and self-concept and are based on the principle of intrinsic motivation. Operant curricula are more academically oriented and often rely on behavior modification techniques. The curricula are highly structured and children's behaviors are closely monitored. The emphasis is on teaching children the academic and social skills they need to compete effectively in school. The cognitive curricula, based on Piagetian theory, emphasize the child's conceptual development. Tasks which coincide with Piagetian stages are used--"the child progresses from the motor level of abstraction, where he learns to use his own body to experience concepts, to the verbal level, where he learns to label what he is doing or experiencing, and finally to the symbolic level, where through familiarity with objects and object representations he develops the skills necessary to think abstractly" (p. 35).[8] In coding the studies, the following groupings were used to classify curricula:

- **Operant:**
  - **Bereiter-Englemann; Englemann-Becker academically oriented model**
  - **Bushell behavior analysis model**
- **Montessori**
  - **Curricula based on the work of Maria Montessori**
- **Traditional:**
  - **New Nursery School Responsive Model**
  - **Open Education (English Infant Schools, pragmatic action-oriented)**
  - **"Regular/Traditional"**
  - **Bank Street Humanistic**
  - **Enabler Humanistic**

---

[8] Stanford Research Institute. Implementation of Planned Variation in Head Start: Interim Report. DHEW Publication No. (OCD) 72-7, 1971.

- Cognitive:
  - Weikert cognitive model
  - DARCEE (Demonstration and Research Center for Early Education, Peabody College, Nashville)
  - Ira Gordon's Home Visitor and Early Learning Center Model

Earlier research has addressed this issue empirically. Two notable studies, the Head Start Planned Variation and Louise Miller's Head Start study, examined the effects of a number of curricula. The more academic curricula appeared to be most effective in promoting particular academic skills immediately. Over time there were no significant differences among the curricula in the Planned Variation study, but Miller found the Montessori and DARCEE programs to produce the most positive effects in the middle school years.

Figure 3-10 compares each of the curricula immediately after Head Start for the global cognitive measure. All four models produced positive effects for Head Start children. Use of the more academically oriented curricula resulted in the largest effect which was meaningfully higher than the other curricula in both treatment/control studies (.74) and in pre/post studies (.66). Curricula were also compared over time to uncover long-term differences and by the end of the third year effect sizes for all curricula are essentially zero or negative. Thus, the choice of one curriculum over another appears to make no difference over time.

Class Size. The number of children in a classroom has always been a concern of early childhood educators. Smaller class sizes allow more personalized attention and are believed to be more beneficial to cognitive growth. Previous research has demonstrated this to be true. For example, the National Day Care study found that children in classes of 12 were more socially active, had higher gains on two developmental tests and received better care than children in classes of 24.[9]

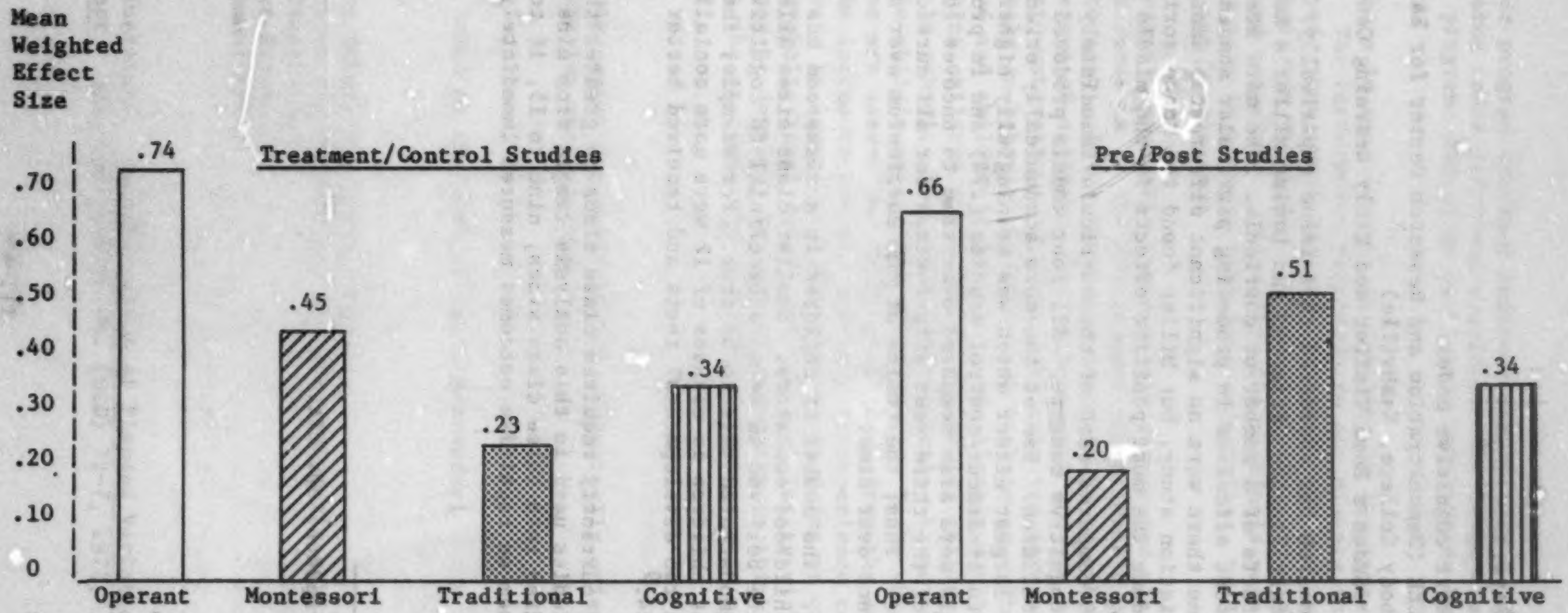
Head Start currently requires class sizes no greater than 20. Class sizes in the studies used in this analysis ranged from nine to 30 children. We grouped studies into three class sizes, nine to 15, 16 to 20, and 21 to 30 and compared them on cognitive outcomes measured immediately after Head Start.

---

[9] Smith and Spence, op. cit.

Figure 3-10

Curricula:
Immediate Effects for Cognitive Outcomes



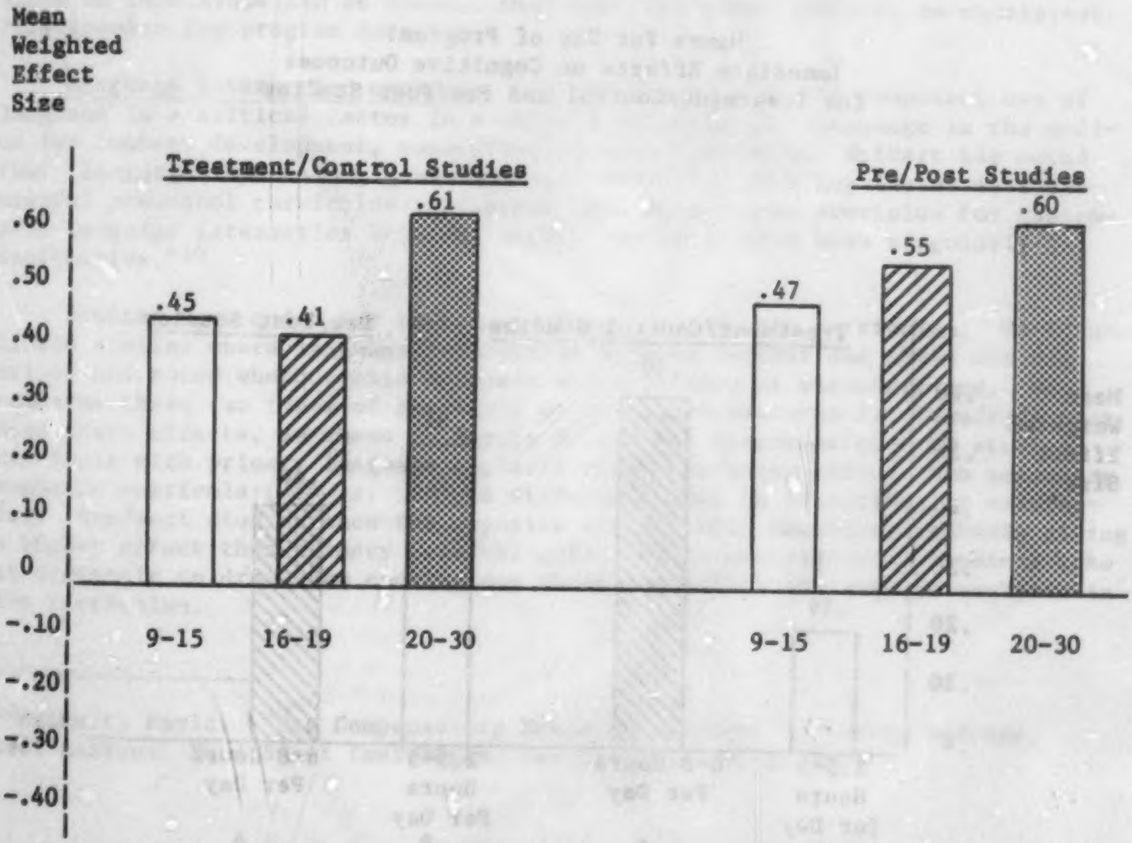
	Operant	Montessori	Traditional	Cognitive	Operant	Montessori	Traditional	Cognitive
N =	3	1	5	1	4	3	12	5
n =	4	1	5	1	7	4	24	11
SD =	.51	0	.36	0	.52	.23	.40	.32

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure 3-11 shows little difference among the class sizes on this measure. Head Start had an immediate positive effect on cognitive development of about half a standard deviation for all three class sizes. While the largest class size group has the highest effect size, the difference is not educationally meaningful and is based on only 3 studies.

Figure 3-11

Number of Children Per Class: Immediate Effects on Cognitive Outcomes



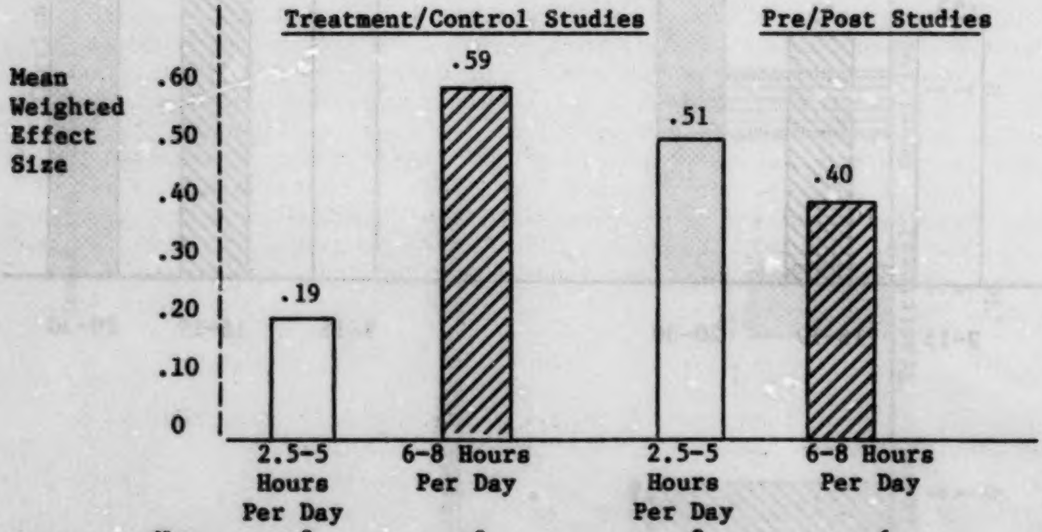
	9-15	16-19	20-30	9-15	16-19	20-30
N =	1	2	1	3	11	2
n =	1	4	2	8	17	2
SD =	0	.33	.42	.40	.45	.21

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Hours Per Day. For many years there has been a debate on how much Head Start is needed to maximize child development. Intuitively, it might appear that if some is good more is better--that is, as the number of hours, days, months, and years in the program increase then the size of the cognitive gain would increase. However, it is equally plausible that the proportion of total enrollment time children are engaged in learning activities may be a more effective predictor of cognitive gains. Also, there may be an optimal level of program duration beyond which additional cognitive gains are trivial in size. Very few of these studies directly evaluated the effect of differences in program duration and none examined the proportion of time in learning activities. However, by coding the duration of programs attended by children whose cognitive performance is evaluated, we are able to compare the average gains in programs that vary in length.

Figure 3-12

Hours Per Day of Program:
Immediate Effects on Cognitive Outcomes
for Treatment/Control and Pre/Post Studies



	2.5-5 Hours Per Day	6-8 Hours Per Day	2.5-5 Hours Per Day	6-8 Hours Per Day
N =	2	2	8	6
n =	3	6	9	15
SD =	.44	.45	.31	.36

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Most Head Start programs operate five days a week. In this review, only two studies provided data on Head Start programs running less than five days a week. Thus, no attempt is made to compare program duration by days per week. The Head Start programs did, however, vary in the number of hours per day they operate. We compared classes that met from 2.5 to five hours per day with classes that met from six to eight hours per day.

Figure 3-12 shows that for treatment/control studies, a longer program duration indeed results in greater immediate cognitive gains, with an effect size of .59 versus .19. The pre/post studies show that educationally meaningful growth occurs across both longer and shorter programs (.30 and .50 respectively) at about the same magnitude, although slightly more growth is seen for the shorter day. On the strength of the large finding from the treatment/control studies, however, there is some suggestion of better effects for the longer programs. More systematic research is needed before definite conclusions on this issue can be drawn. Over the long term, there is no consistent relationship for program duration.

Language interaction emphasis. The development of the competent use of language is a critical factor in a child's development. Language is the medium for concept development, communication and expression. Weikart has noted that "language input along some organized dimension is a key factor in a successful preschool curriculum. Programs that do not make provision for systematic language interaction between teacher and child have been singularly ineffective."[10]

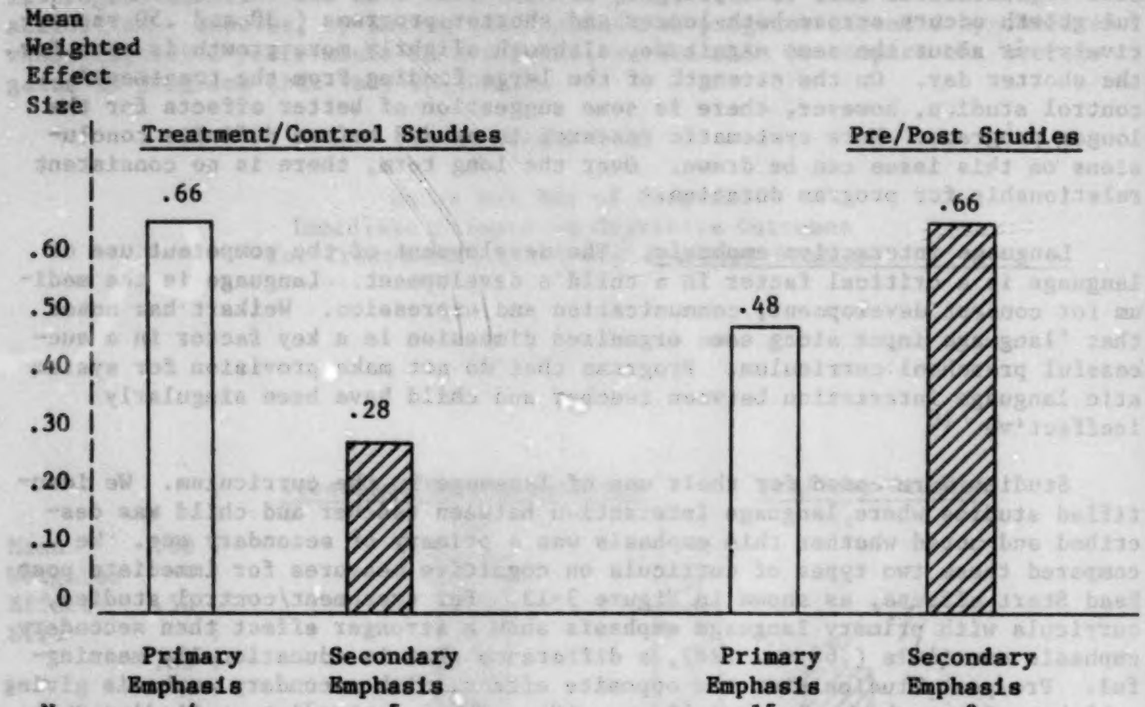
Studies were coded for their use of language in the curriculum. We identified studies where language interaction between teacher and child was described and noted whether this emphasis was a primary or secondary one. We compared these two types of curricula on cognitive measures for immediate post Head Start effects, as shown in Figure 3-13. For treatment/control studies, curricula with primary language emphasis show a stronger effect than secondary emphasis curricula (.66 vs. .28), a difference that is educationally meaningful. Pre/post studies show the opposite effect, with secondary emphasis giving a higher effect than primary (.66 vs. .48). These contradictory findings make it difficult to draw firm conclusions about the effect of language emphasis in the curriculum.

---

[10] Weikart, David. "Has Compensatory Education Failed?" Invited address, 1969 National Head Start Conference, New Orleans, LA, p. 1.

Figure 3-13

Language Interaction Emphasis:
Immediate Effects on Cognitive Outcomes



	Primary Emphasis	Secondary Emphasis	Primary Emphasis	Secondary Emphasis
N =	4	5	15	3
n =	7	6	44	3
SD =	.41	.47	.40	.12

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Family and Child Characteristics

Although the Head Start program serves children from low income families, there are differences in the degree of economic disadvantage and there is diversity in the background characteristics of the children and families. These differences could affect both immediate cognitive performance as well as long-term progress.

There are two plausible but competing hypotheses about the way in which social and economic circumstances can affect cognitive gains. Head Start, as a compensatory education program, might be expected to have the greatest impact on children of the lowest socioeconomic status. That is, those children who enter the program with the greatest disadvantage have the most to learn and, thus, will make the largest gains. The statistical phenomenon of regression to the mean may account for some part of these gains. Conversely, it can be argued that children with more resources at home will be in a position to maximize their learning in the program.

In addition to socioeconomic status, the variables of age at entry to Head Start, race and pretest IQ are ones which may differentially affect cognitive gains. Though most children are four years old at entry, there is some variation across and within programs. Similarly, there is variation among children on IQ at entry to Head Start and there is variation in the racial composition of classes.

The proposition of differential effects due to variation in background characteristics is difficult to test with any precision in a research synthesis. The very homogeneity of the Head Start classes on these indicators permits few comparisons. More significantly, the effect sizes are based on the performance of groups of children which may mask within group variation. The mean effect sizes reported in this section do not represent the attributes of any one child, but rather the average of the group participating in the study comparison.

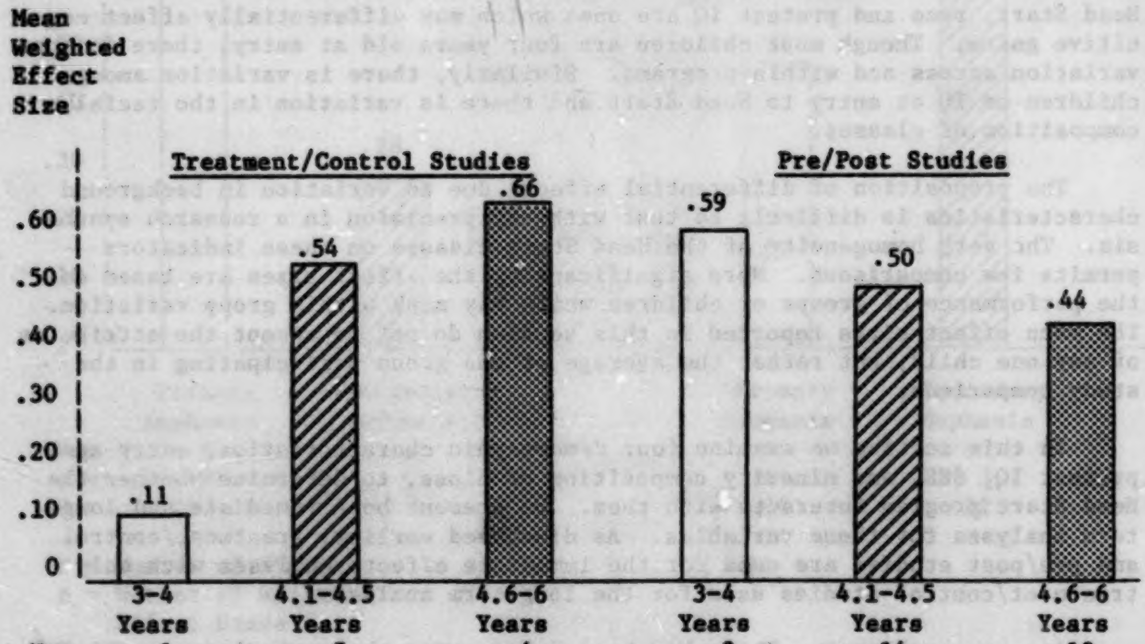
In this section we examine four demographic characteristics, entry age, pretest IQ, SES, and minority composition of class, to determine whether the Head Start program interacts with them. We present both immediate and long-term analyses for these variables. As discussed earlier, treatment/control and pre/post studies are used for the immediate effects analyses with only treatment/control studies used for the long-term analyses.

Age at enrollment. There has been debate over the optimal age to begin preschool education. There is some consensus among early childhood educators that younger children would benefit more from the experience (e.g., Bronfenbrenner, 1974). In the studies we reviewed, Head Start children ranged from three to six years of age and the majority began the program between their fourth and fifth birthdays. In the entire population of Head Start children, about 26% are three-year-olds, 56% are four-year-olds, and 15% are in their fifth year.

We compared the immediate post Head Start effects for three age groups, three- to four-year-olds, 4.1-to 4.5-year-olds and 4.6- to six-year-olds, as shown in Figures 3-14 and 3-15. Contrary to expectation, the younger age group benefitted the least from Head Start, with an effect size of .11, according to the treatment/control studies. However, this effect should be cautiously interpreted since only one study was available for the 3-4 year old category. Also, pre/post studies show no meaningful difference among the age groups, although the trend is toward higher effect sizes for younger children.

Figure 3-14

Age at Enrollment:
Immediate Effects on Cognitive Outcomes

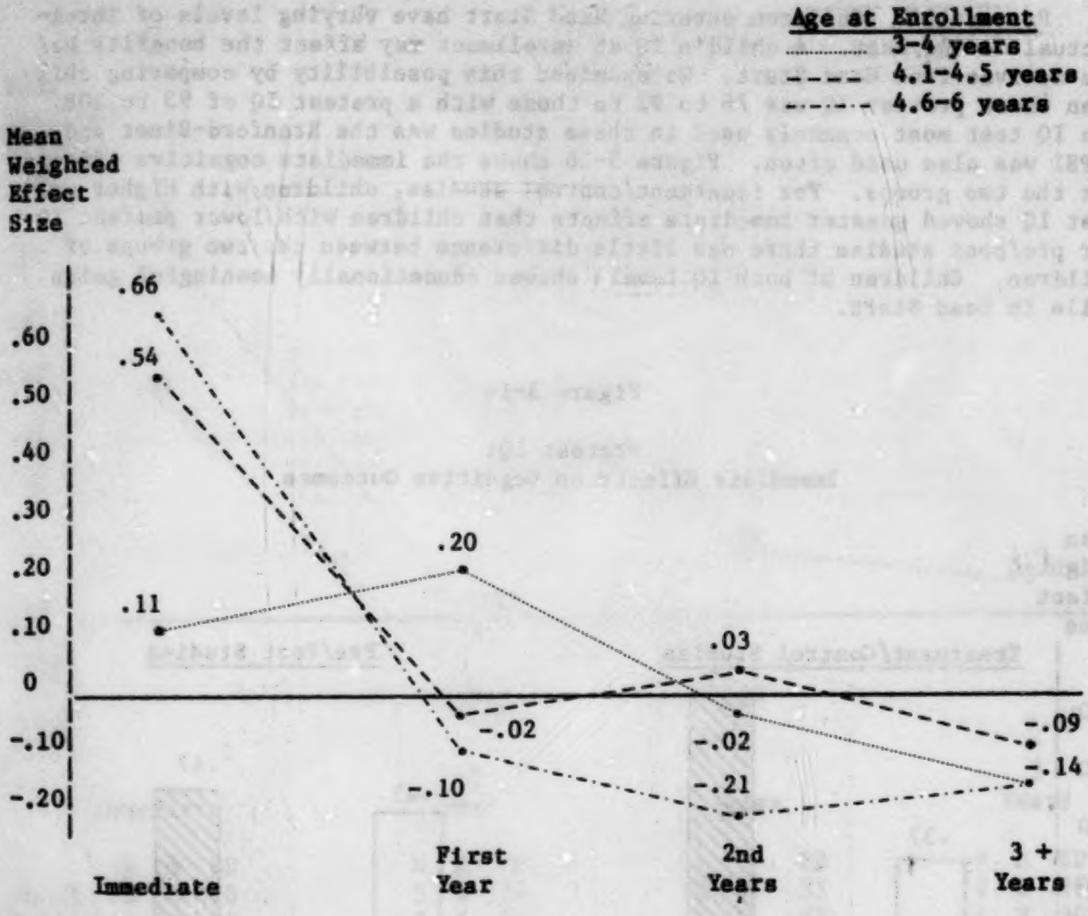


	3-4 Years	4.1-4.5 Years	4.6-6 Years	3-4 Years	4.1-4.5 Years	4.6-6 Years
N =	1	5	4	3	14	10
n =	2	8	10	4	24	31
SD =	.06	.38	.24	.24	.37	.41

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure 3-15

Age at Enrollment: Immediate and Long-Term Effects for Cognitive Outcomes



	Immediate N	Immediate n	Immediate SD	First Year N	First Year n	First Year SD	2nd Years N	2nd Years n	2nd Years SD	3 + Years N	3 + Years n	3 + Years SD
3-4 years:	1	2	.06	1	2	.16	1	2	.50	1	3	.23
4.1-4.5 years:	5	8	.38	5	9	.31	4	10	.36	2	5	.29
4.6-6 years:	4	10	.24	3	5	.49	2	3	.51	1	1	0

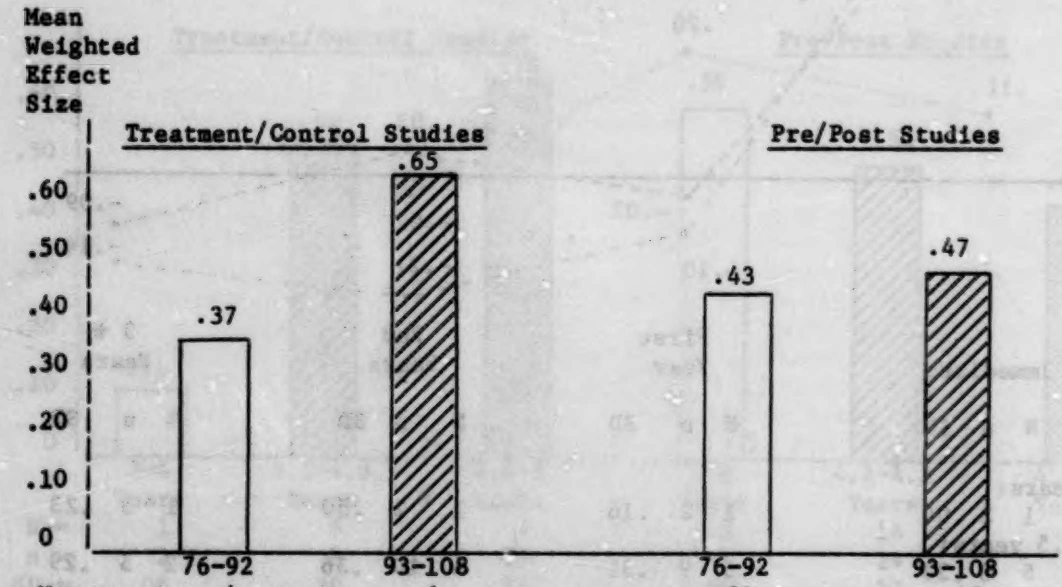
N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Over the long term, the effects for all age groups fall to the same levels as controls after two years. Age at enrollment does not appear to affect short- or long-term cognitive outcomes, although findings are based on only a few studies and should be interpreted cautiously.

Pretest IQ. Children entering Head Start have varying levels of intellectual development. A child's IQ at enrollment may affect the benefits he/she derives from Head Start. We examined this possibility by comparing children whose pretest IQ was 76 to 92 to those with a pretest IQ of 93 to 108. The IQ test most commonly used in these studies was the Stanford-Binet and the WPPSI was also used often. Figure 3-16 shows the immediate cognitive effects for the two groups. For treatment/control studies, children with higher pretest IQ showed greater immediate effects than children with lower pretest IQ. For pre/post studies there was little difference between the two groups of children. Children of both IQ levels showed educationally meaningful gains while in Head Start.

Figure 3-16

Pretest IQ:
Immediate Effects on Cognitive Outcomes

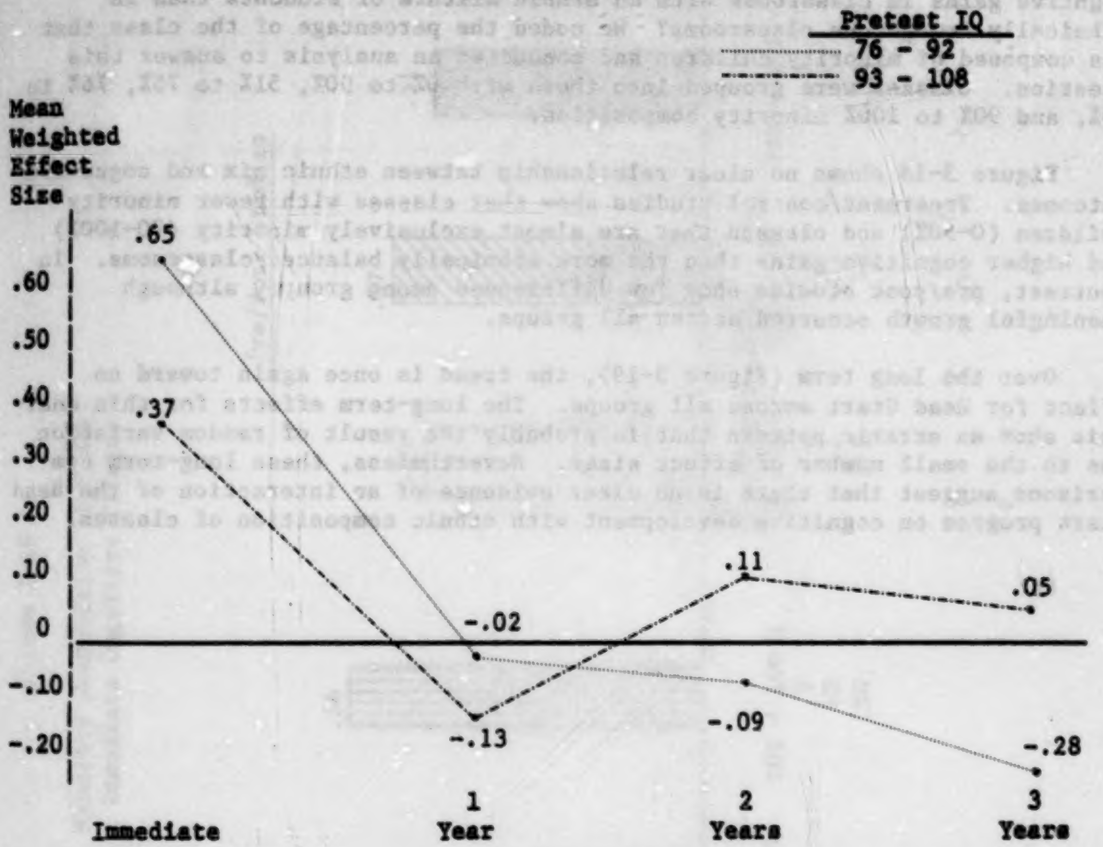


	76-92	93-108	76-92	93-108
N =	4	6	21	15
n =	5	11	53	25
SD =	.28	.43	.32	.39

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure 3-17

Pretest IQ:
Immediate and Long-Term Effects for Cognitive Outcomes



	N	n	SD	N	n	SD	N	n	SD	N	n	SD
76-92	4	5	.28	5	6	.33	3	4	.35	2	3	.36
93-108	6	11	.43	3	5	.42	2	4	.55	1	2	.30

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Over the long term, there is no discernible pattern. The greater immediate effects for children with higher average pretest IQ scores dissipate after one year, and by the third year are comparable to those children with lower pretest scores. However, the small number of studies precludes any definite statement regarding this variable. It appears from these data that pretest IQ is not an important factor influencing cognitive outcomes among Head Start children over the long term.

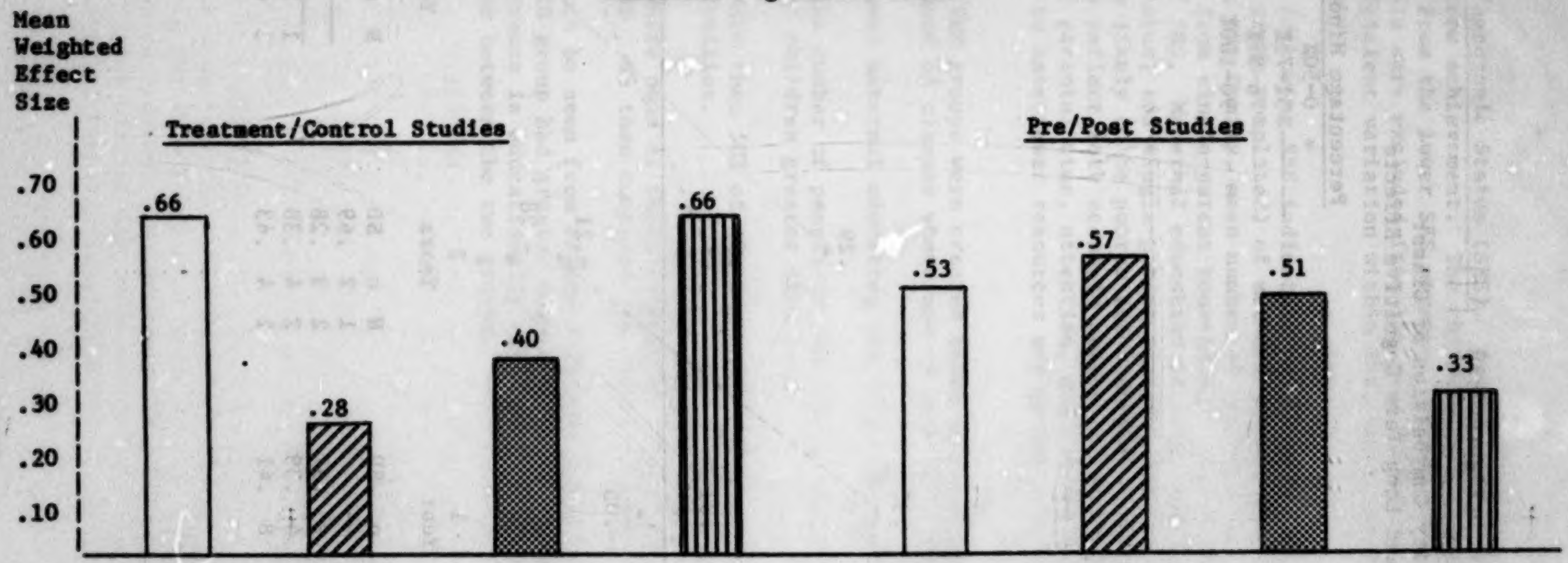
Minority Composition of Head Start Classrooms. In most Head Start programs, a substantial portion of the children are from minority groups. This raises the question of whether maintaining an ethnic balance in the classroom should be an issue to program planners. Do children make greater cogntive gains in classrooms with an ethnic mixture of students than in ethnically homogenous classrooms? We coded the percentage of the class that was composed of minority children and conducted an analysis to answer this question. Classes were grouped into those with 0% to 50%, 51% to 75%, 76% to 89%, and 90% to 100% minority composition.

Figure 3-18 shows no clear relationship between ethnic mix and cognitive outcomes. Treatment/control studies show that classes with fewer minority children (0-50%) and classes that are almost exclusively minority (90-100%) had higher cognitive gains than the more ethnically balanced classrooms. In contrast, pre/post studies show few differences among groups, although meaningful growth occurred across all groups.

Over the long term (Figure 3-19), the trend is once again toward no effect for Head Start across all groups. The long-term effects for this analysis show an erratic pattern that is probably the result of random variation due to the small number of effect sizes. Nevertheless, these long-term comparisons suggest that there is no clear evidence of an interaction of the Head Start program on cognitive development with ethnic composition of classes.

Figure 3-18

Minority Composition of Class: Immediate Cognitive Effects

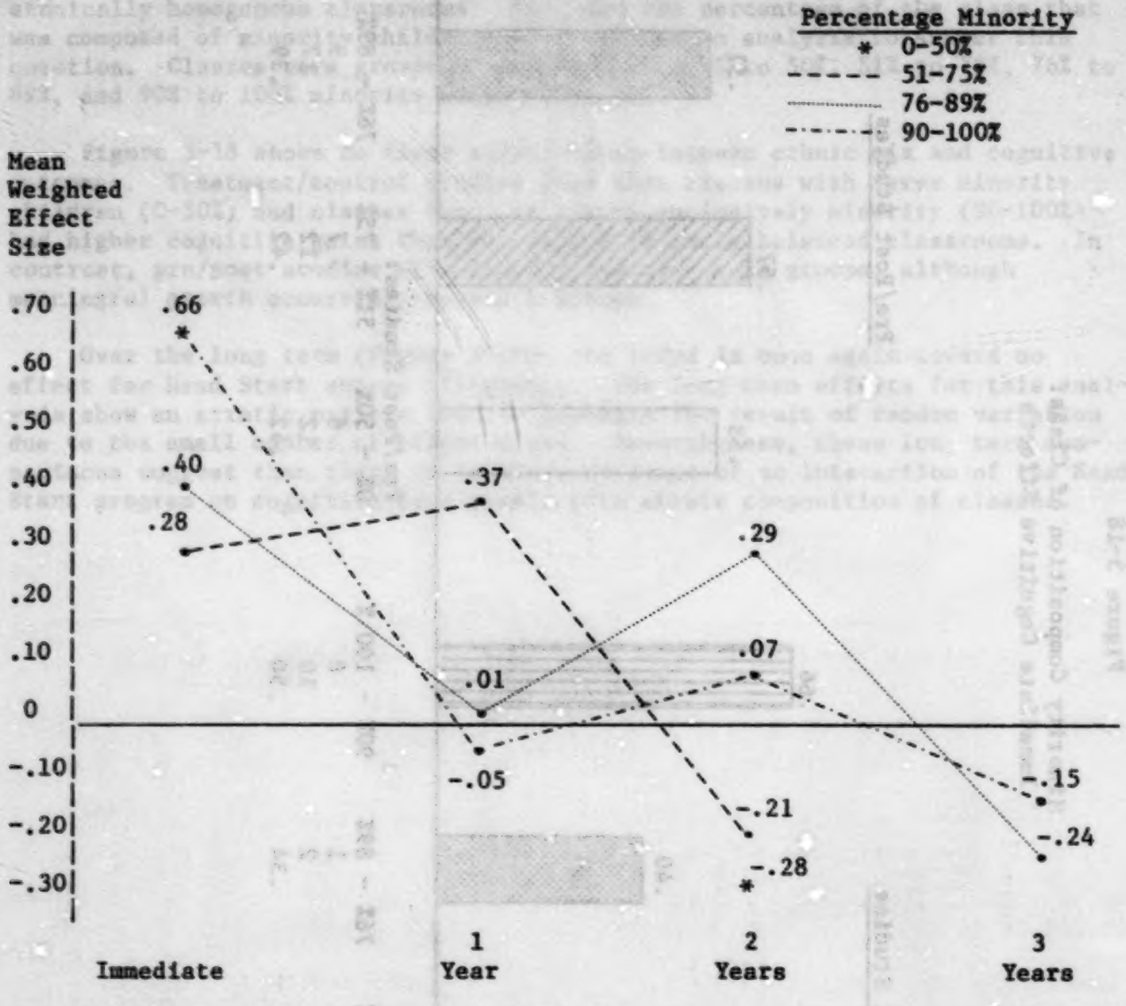


Treatment/Control Studies:	0% - 50%	51% - 75%	76% - 89%	90% - 100 %	Pre/Post Studies: 0% - 50%	51% - 75%	76% - 89%	90% - 100 %
N =	2	3	1	8	6	7	9	8
n =	3	4	2	10	12	12	17	13
SD =	.06	.49	.34	.50	.42	.42	.39	.31

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure 3-19

Minority Composition of Class:
Immediate and Long-Term Cognitive Effects



	Immediate N	Immediate n	Immediate SD	1 Year N	1 Year n	1 Year SD	2 Years N	2 Years n	2 Years SD	3 Years N	3 Years n	3 Years SD
0-50%	2	3	.06		—		1	2	.69			
51-75%	3	4	.49	1	2	.37	2	3	.28			
76-89%	1	2	.34	2	4	.39	2	4	.38	1	2	.22
90-100%	8	10	.50	4	8	.41	2	4	.43	3	6	.21

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Socioeconomic Status (SES). Socioeconomic status is a powerful predictor of classroom achievement. The children in the studies included in this review were all from the lower SES stratum. Studies that used middle class children as controls were excluded from the meta-analysis. Nonetheless, there was still sufficient variation within this lower SES level to allow for some comparisons.

The following SES indicators were coded: mean educational attainment (highest grade completed) of mothers of children in Head Start, mean number of people in the family, mean number of children in the family, and percentage of children from single-parent households. All of these variables are good indicators of SES. Maternal education is a strong correlate of income and occupational status, and single-parent families are generally headed by women and thus more likely to be poorer than two-parent families. Family size is also useful to reflect both economic status and to indicate the potential availability of parental time, attention, and resources. Larger families are expected to have fewer resources per person and less time to devote to each child.

Two SES groups were created based on these variables. The lower group was composed of classes where one or more of the following conditions existed:

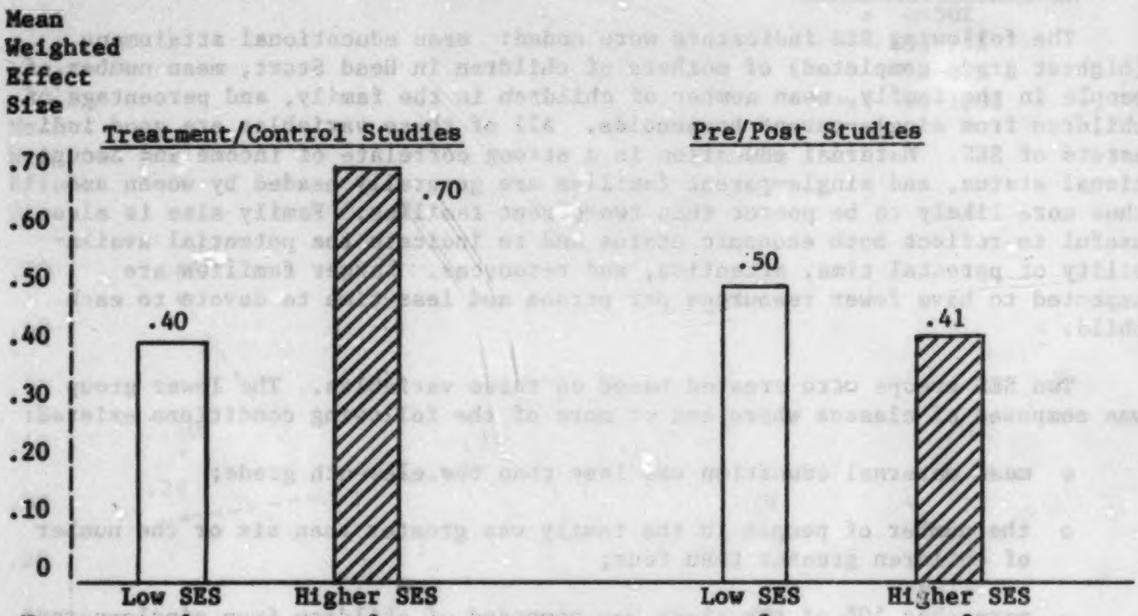
- mean maternal education was less than the eleventh grade;
- the number of people in the family was greater than six or the number of children greater than four;
- more than 50% of the class was composed of children from single-parent families.

Classes where none of these conditions held composed the second group of higher SES. We then compared the impact of Head Start on these two groups.

It can be seen from Figure 3-20 that immediately after Head Start, the higher SES group had greater cognitive gains in treatment/control studies. The difference is educationally meaningful. Pre/post studies show little difference between the two groups.

Figure 3-20

Socioeconomic Status: Immediate Effects on Cognitive Outcomes



	Low SES	Higher SES	Low SES	Higher SES
N =	3	2	3	8
n =	6	3	8	23
SD =	.24	.34	.41	.39

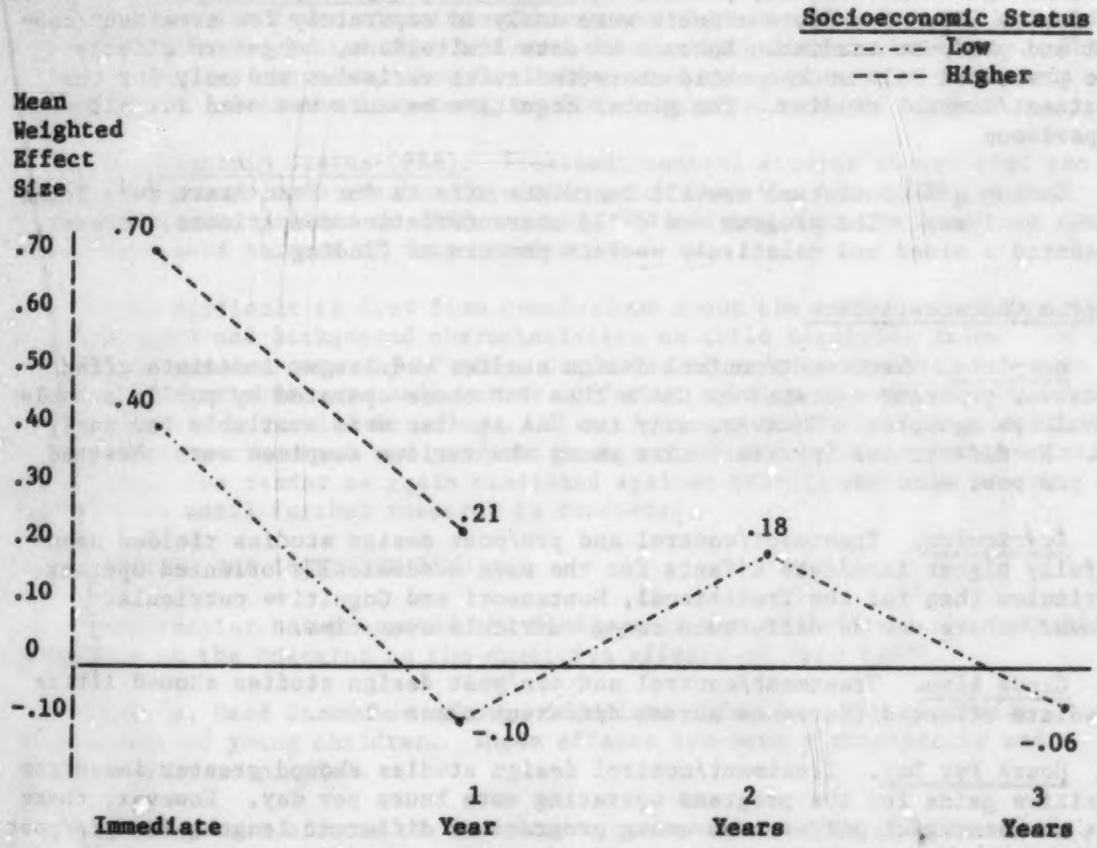
N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

The long-term effects for SES could not be examined thoroughly, since there were no studies after the first year that included children from the higher SES group. Figure 3-21 presents effects over time for the lower SES group and for one year after Head Start for the higher group. The lower group shows an immediate drop to an effect size of -.10. Thereafter, effects remain essentially zero for the next two years. The higher SES group also declines from its immediate level but remains positive and educationally meaningful.

The lack of data for SES prevents us from a thorough analysis of the effects of Head Start by level of SES. The immediate and first year effect, though based on few data, suggest that children from the lowest SES groups do not perform as well in Head Start as their peers who are somewhat more advantaged. We are unable to draw any conclusions about SES for the long term. We further discuss SES in the analysis of socioemotional outcomes presented in the next chapter.

Figure 3-21

Socioeconomic Status:
Immediate and Long-Term Cognitive Outcomes



	Immediate			1 Year			2 Years			3 Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Low SES	3	6	.24	3	8	.43	2	5	.35	3	7	.22
Higher SES	2	3	.34	3	4	.38						

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

SUMMARY OF HEAD START PROGRAM AND CHILD CHARACTERISTICS EFFECTS

Program characteristics analyses were performed which examined the effects of Head Start program operator, curriculum, class size, hours per day and language interaction emphasis in the classroom. Child characteristics analyses examined age at enrollment, pretest IQ, minority group composition of the class and family SES. Immediate effects were analyzed separately for treatment/control and pre/post studies. Because of data limitations, long-term effects were presented only on the child characteristics variables and only for the treatment/control studies. The global cognitive measure was used for all comparisons.

Strong and consistent overall immediate effects for Head Start were found in all analyses. The program and child characteristics comparisons, however, presented a mixed and relatively unclear pattern of findings.

Program Characteristics

Auspices. Treatment/control design studies had larger immediate effect sizes for programs operated by CAA's than for those operated by public schools or multipe agencies. However, only two CAA studies were available for analysis. No differences in effect size among the various auspices were observed for pre/post studies.

Curriculum. Treatment/control and pre/post design studies yielded meaningfully higher immediate effects for the more academically oriented operant curriculum than for the Traditional, Montessori and Cognitive curricula. However, there was no difference among curricula over time.

Class Size. Treatment/control and pre/post design studies showed little immediate effect differences across different class sizes.

Hours Per Day. Treatment/control design studies showed greater immediate cognitive gains for the programs operating more hours per day. However, there were no meaningful differences among programs of different lengths for pre/post studies.

Language Interaction. Treatment/control design studies showed that curricula with a primary language emphasis had a stronger cognitive effect on children than did the secondary emphasis curricula. Pre/post studies showed the completely opposite effect.

Child and Family Characteristics

Age at Enrollment. Treatment/control studies showed that the youngest groups of children entering Head Start benefitted less from Head Start than did the older groups of children. This finding was essentially reversed in the pre/post design studies. Over the long term no discernable pattern was evident.

Pretest IQ. Treatment/control studies showed children with higher pretest IQ's to gain more over the Head Start year than children with lower pretest IQ's. Pre/post studies yielded no differences between the two groups. Over the long term there was no discernable pattern.

Minority Composition of Classrooms. Treatment/control studies showed that classes with fewer minority children and classes with almost all minority children performed better than the more ethnically balanced classrooms. The pre/post studies, however, show few differences among classes with various ethnic mixes. Over the long term, no discernable pattern was evident.

Socioeconomic Status (SES). Treatment/control studies showed that the higher SES groups made greater cognitive gains than the lower SES groups. Pre/post studies yielded no differences. SES effects over the long term could not be assessed because of data limitations.

It is difficult to draw firm conclusions about the influence of any specific program and background characteristics on child cognitive gains. In only a very few studies were any of these variables of central research interest and most comparisons were made across different studies thereby significantly increasing the potential for error. Also, frequent inconsistencies of findings across treatment/control and pre/post design studies make clear interpretations difficult. The reader is again cautioned against drawing any firm policy conclusions until further research is conducted.

DISCUSSION OF THE COGNITIVE FINDINGS

This chapter has presented the findings of a meta-analysis and narrative synthesis of the research on the cognitive effects of Head Start.

Clearly, Head Start has strong, immediate effects on the cognitive development of young children. These effects are both statistically and educationally meaningful.

The long-term effects of Head Start, presented in this chapter, though not as strong, are reflective of the findings of the Consortium for Longitudinal Studies. Like the Consortium, we find test score differences between treatment and control children fading over time. (The Consortium found some achievement test differences through the fifth grade, our test score differences end two years after Head Start.) However, we find evidence in several studies that Head Start graduates outperform controls on measures of school success. While the Consortium's findings on these measures were significant and robust, ours are more tentative. This may be due as much to the lack of long-term research as to the strength of the effects.

The studies that are available do suggest that children may have developed the desired social competence to adapt more readily to their school environment and experience more "real life" academic successes than their no-treatment peers. From the few studies available in this area, these children are seen to progress on schedule in school, and are better able to satisfy their teachers' requirements to allow them to remain in regular education classes. As pointed out by Weikert and others, such results have significant economic and social cost savings. It is unfortunate, however, that more Head Start studies did not examine these outcome indicators.

Also, it appears from the data analysis which examined long range cognitive effects of studies conducted before and after 1970 (see Appendix E), that the Head Start program changes made in the 1970's, such as converting summer Head Start to full year programs, initiating a training and technical assistance effort, implementing Head Start Performance Standards and launching the Child Development Associate Credential (CDA), may be having positive effects on cognitive performance. The average impact of Head Start on children for the first two years after leaving Head Start was greater when measured by studies carried out after 1970. However, while Head Start is on the right path, even more program improvements are warranted. Certainly ACYF's imminent plans to revise the Head Start monitoring system and introduce nationwide training for educational coordinators demonstrate positive changes which can be made. Furthermore, findings on the school readiness measure suggest that Head Start is enhancing children's preparation for school.

It may be that cognitive effects diminish over time because the educational environment in elementary schools does not support and stimulate the children as effectively as Head Start did. This suggests that more innovative arrangements designed to sustain the early developmental benefits of Head Start would be desireable. Closer ties with elementary schools on curricular issues to assure that Head Start children are later exposed to learning activities which are consistent with their developmental levels could be sought. More effective partnerships between parents and Head Start teachers in the learning process illustrate some innovative arrangements which might prove to be cost-effective. Parents who witness their contribution to successful change in the development of their children while in Head Start, would be likely to continue this role in elementary school.

Finally, in addition to these cognitive findings, it is important to remember that cognitive development is only one of several components that comprise this comprehensive program. Socioemotional and physical benefits to the child as well as benefits to parents and the community must all be considered when assessing the effectiveness of Head Start. These will be presented in subsequent chapters.

The reader is once again reminded that data limitations related to study design, outcome measures and attrition of studies and subjects in the long range analyses serve to caution against drawing firm conclusions. Nevertheless, there are clear signals related to immediate effects and important indications from long-term school success measures, to suggest that ACYF seriously consider the importance of these findings in determining future policy and program directions.

CHAPTER IV

THE IMPACT OF HEAD START ON SOCIOEMOTIONAL DEVELOPMENT

INTRODUCTION

"The encouragement of self-confidence, spontaneity, curiosity, and self-discipline which will assist in the development of the child's social and emotional health"[1] are central goals of Head Start. However, few investigators have explored the program's impact on socioemotional behavior and attitudes.

Research on the socioemotional development of Head Start children has been hampered in two ways. First, there has been a widespread perception that Head Start is primarily a program to enhance cognitive abilities and improve later school performance. Thus, much research has aimed at testing hypotheses related to that supposition and ignored other components. Second, it is difficult to measure socioemotional development, and instruments assessing this domain are generally not as refined, valid, or reliable as those for evaluating cognitive development. In Walker's book[2] reviewing socioemotional measures for children, she severely criticizes many of the measures used in these studies, finding that "standardization procedures are practically nonexistent, reliabilities are generally moderate, and validity is generally poor" (p. 39). The heavy dependence of these measures on the child's verbal ability and children's strong desires to please adults by giving "socially desirable" answers are two of Walker's greatest concerns about validity. In her opinion, the most valid measures are observational ones. However, most of the studies reported here rely on the child's self-report, or on teacher or parent reports.

The lack of standardization is realized in the absence of norms for many measures. This creates a particular problem with the results of studies using pre/post designs. When norms are unavailable for these measures, the studies cannot be coded because there is no way to control for maturation. Further, because few investigators use socioemotional measures, there are fewer outcomes to be included in analyses (such as those presented in this paper), limiting the robustness of findings and the potential for differential analyses.

The socioemotional measures used in the studies that comprise this review were found to fall into the general categories of self-esteem, achievement motivation, and social behavior. Researchers were examining Head Start essentially to determine if it enhances the child's self-image, interactions with other people, and motivation to achieve.

---

[1] Department of Health and Human Services. Head Start Performance Standards. Washington: Government Printing Office, 1982.

[2] Walker, D. Socioemotional Measures for Preschool and Kindergarten Children. San Francisco: Jossey-Bass, 1973.

According to Coopersmith, "self-esteem is a personal judgment of worthiness that is expressed in the attitudes the individual holds toward himself. It is a subjective experience which the individual conveys to others by verbal reports and other overt expressive behavior."[3] A favorable self concept (self-esteem) is essential to personal happiness and effective functioning, both in the child and in the adult.

Achievement motivation is the child's desire to complete tasks, to master problems and increase his or her skills and abilities. This behavior may gratify other motives such as recognition from peers, parents, or the obtainment of social status or power. Higher achievement motivation in preschool years relates to higher school achievement, IQ gains between ages six and ten, and interest in mastery and competition. It is also one of the most stable aspects of a child's personality.[4]

Social behavior is the child's interaction with other children and adults. Interaction patterns are expected to change as the child matures. Exclusive interaction with adults gives way to more interaction with children and these latter relationships move from solitary play to parallel play to cooperative play as the child ages. In preschool children, those who are more independent of adults are more socially accepted by other children.[5]

Reviewers of studies on the impact of Head Start on the socioemotional development of children have noted the measurement difficulties cited earlier and have concluded that findings on Head Start's impact on socioemotional development are mixed. Hertz (1977) found gains (though not consistent ones) "from Head Start and other preschool intervention programs in self-concept, achievement motivation, and social adjustment" (p. 20).[6] The Social Research Group (1978), in an earlier review of many of the same studies contained here, found Head Start did not produce gains in self-concept, but did produce gains in socially mature behavior and child socialization. Findings on achievement motivation were conflicting.[7]

---

[3] Coopersmith, S. The Antecedents of Self-Esteem. San Francisco: W. H. Freeman, 1967.

[4] Mussen, P., Conger, J., and Kagan, J. Child Development and Personality. New York: Harper and Row, 1969.

[5] Watson, R. Psychology of the Child. New York: John Wiley and Sons, 1965.

[6] Hertz, T. The Impact of Federal Early Childhood Programs on Children. Washington: Office of the Assistant Secretary for Planning and Evaluation, DHEW, 1977.

RESEARCH QUESTIONS

The major research questions examined in our analyses include the following:

1. What are the immediate and long-term effects of Head Start on children's socioemotional development, specifically the domains of self-esteem, social behavior, and achievement motivation?
2. How does Head Start affect the socioemotional development of children with different family and background characteristics?
3. What are the effects of program and classroom characteristics on the socioemotional development of the children?

METHODOLOGY

The methodology for the meta-analysis of findings on socioemotional effects is the same as that described in Chapter II.

Selection of Studies

The subset of studies to be included in this meta-analysis was selected from the complete collection by a sequential sorting process. At each step in this process, projects that failed to meet specified criteria were eliminated from the set of eligible studies. All research reports coded with the keywords "social/emotional development" or "social behavior" were identified by computer. The screening process resulted in the selection of 17 studies. These studies represent the population of research with data appropriate for this review.

Coding the Studies

The 17 studies selected for review were coded to permit a quantitative analysis of the findings. All documents associated with each study were treated as a single unit to prevent any duplication. A list of the studies is provided in Appendix D. Coding was conducted identically to coding for the cognitive outcomes. The coding system shown in Appendix C was used to record a statistical estimate of the magnitude of Head Start's impact on development—the effect size. A description of the coding process and an explanation of effect sizes are contained in Chapter II.

---

[7] Mann, A. et al. A Review of Head Start Research Since 1969 and An Annotated Bibliography. Washington: DHEW, 1978.

In addition to calculating all effect sizes for each comparison group in a study, for each comparison information was recorded about the characteristics of the children and their families, the characteristics of the Head Start program and the characteristics of the study design and methodology.

Program characteristics examined are:

- Type of curriculum
- Existence of a theory base for the curriculum
- Type of theory of curriculum
- Amount of language interaction emphasis
- Class size
- Percent staff with early childhood education degrees
- Percent staff minority

Child and family characteristics included in the analysis are:

- Pretest I.Q. of children
- Gender composition of class
- Minority Composition of class
- Age of children
- Socioeconomic status measures (mother's education, percent of parents employed, number of people in family, percent single-parent families)

The program and background variables examined here differ somewhat from those examined for cognitive effects due to the different amount of information available. Other program and family characteristics were coded, but could not be used for this analysis due to small sample size or insufficient variation. These additional characteristics are listed in the codebook in Appendix C.

Our approach to controlling for the quality of the research reviewed has been described in Chapter II and Appendix E. We rated the quality of each study on several factors and then determined whether the quality of the research was related statistically to the findings on the effects of Head Start on socioemotional development. Quality made little difference on the effect sizes and overall findings.

As discussed earlier, one of the more persistent problems encountered in the Head Start meta-analyses is the difference in the average effect size produced by studies that compare a group of children before and after Head Start participation (pretest/posttest comparisons) and effect sizes produced by studies that compare Head Start participants to children with no preschool experience (treatment/control group comparisons). Although statistical controls for maturation using test norms were used in coding to adjust for "expected" gains in child development, these controls appear inadequate (see Chapter II) and pretest/posttest comparisons generally yield higher average effect sizes than treatment/control group comparisons. Fortunately, this was not a problem in the analysis of socioemotional effects since only four weighted effect sizes from four different studies were computed from pre/post designs. All of these effect sizes were from comparisons taken immediately after the end of the Head Start program. (Norms were available for the tests used in these studies.) A separate analysis of these studies revealed that inclusion of them does not bias the overall findings.

Outcome Measures

As discussed earlier, we assess the impact of Head Start on socioemotional development in three separate domains: self-esteem, social behavior and achievement motivation. As we have noted, however, these concepts were measured with several different instruments, and no single measure was widely used.

Investigators directing the studies included here used a total of 32 different instruments. Of these, only four were used by two or more researchers. Two of these four, the Dog and Bone Test, a measure of Innovative Behavior, and the Early Childhood Embedded Figures Test, a measure of field independence, are both parts of the Cincinnati Autonomy Test Battery. The Gumpgookies Test, used by four studies, assesses achievement motivation and the Schaefer Behavior Inventory, used by two studies, examines three behavior traits--extroversion, task orientation, and hostility.

The following is a complete list of the measures used in the studies included here:

- Self-esteem
  - Children's Projective Pictures on Self-concept
  - Children's Self-concept Index (CSCI)
  - Self-concept Rating Scale
- Social Behavior
  - California Test of Personality
  - Children's Attitude Range Indicator (CARI)
  - Cincinnati Autonomy Test Battery (CATB)
  - Denver Developmental Screening Test
  - Detroit Development Profile (except Work Habits subscale)
  - Kansas Social Interaction Observation Procedure
  - Kindergarten Prognosis (CATB)
  - Pupil Observation Sociability
  - Schaefer Behavior Inventory
  - Stanford Binet Intelligence Test "verbal nonwork" subscore
  - Social Skills-Preschool Attainment Record
- Achievement Motivation
  - Classroom Behavior Inventory (CBI)
  - Curiosity Box (CATB)
  - Draw a Line Slowly (CATB)
  - Dog and Bone (CATB)
  - Early Childhood Embedded Figures (CATB)
  - Early Childhood Matching Familiar Figures (CATB)
  - Fantasy Related Verbalizations (CATB)
  - Incidental Learning (CATB)
  - Intentional Learning (CATB)

- Resistance to Distraction (CATB)
- Task Competence (CATB)
- Gumpgookies
- Motor Impulse
- Matching Familiar Figures
- Schaefer Behavior Inventory (Task Orientation subscale)
- School Perception-Achievement Motivation
- Stanford Binet Intelligence Test "work"
- Stanford Binet Intelligence Test Inventory of Factors Affecting Work Performance

Achievement motivation was the most commonly measured outcome, used in 11 separate studies, producing 80 unweighted effect sizes and 38 weighted effect sizes. Social behavior was measured in 8 different studies which resulted in 26 unweighted effect sizes and 13 weighted effect sizes. Self-esteem was assessed in only 3 separate studies producing 16 unweighted effect sizes and 10 weighted effect sizes.

Since the effects of the Head Start program vary over time and for each type of outcome, we report findings separately by socioemotional outcome and time of measurement. The number of studies and comparisons for each measure at each time period is given in Table 4-1.

Table 4-1

Number of Studies and Weighted Effect Sizes Used in Socioemotional Development Meta-Analyses

	Time After Head Start			
Outcome Measure	Immediate (Up to End of Head Start)	One Year After Head Start	Two Years After Head Start	Three or More Years
Self-Esteem	Studies (N) = 2 Weighted Effect Sizes (n) = 3	N = 2 n = 3	N = 2 n = 3	N = 1 n = 1
Social Behavior	Studies (N) = 5 Weighted Effect Sizes (n) = 5	N = 3 n = 4	N = 2 n = 2	N = 2 n = 2
Achievement Motivation	Studies (N) = 6 Weighted Effect Sizes (n) = 10	N = 7 n = 15	N = 3 n = 8	N = 2 n = 5

NOTE: Some studies measured outcomes at more than one time and/or measured more than one outcome. Thus, the same study may be represented in more than one cell.

OVERALL FINDINGS: EFFECTS OF HEAD START ON SOCIOEMOTIONAL DEVELOPMENT

This section examines both the immediate and long-term effects of Head Start on socioemotional development. We first discuss overall findings for the three categories of socioemotional measures--self-esteem, social behavior and achievement motivation--and then present an analysis of effects by varying classroom characteristics and child background variables.

Readers of our previous paper may notice some differences between the findings for socioemotional outcomes reported there and results reported in the present analysis. There are two reasons for this. First, we have included seven additional studies here that were not available for our previous paper. The increased number of studies provides greater scope to the investigation. Second, in earlier reports we did not divide the socioemotional measures into the three separate categories used here. Instead, we usually combined these measures into one global index that may have obscured differences among the outcomes.

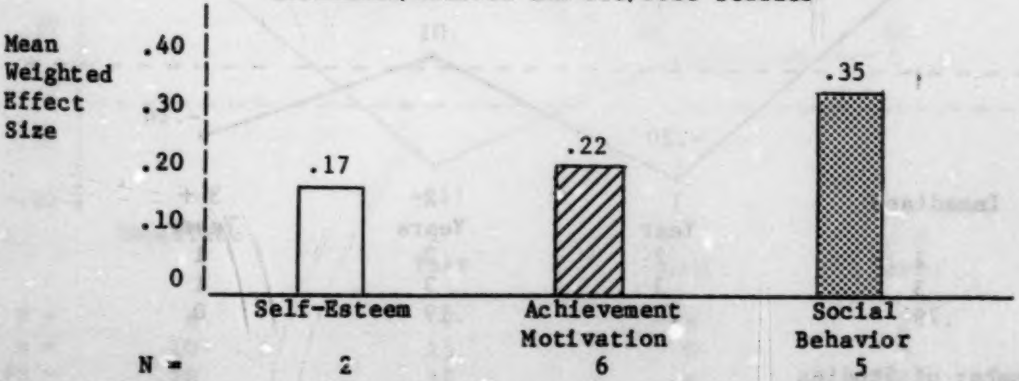
As discussed in Chapter II, we do not conduct tests of statistical significance in this analysis but evaluate differences by whether they are "educationally meaningful." We consider an effect size meaningful if it is in the range of .25. Likewise, when comparing different groups, as in the analysis of background characteristics, we define a meaningful difference as at least .25.

Immediate Effects of Head Start on Socioemotional Development

We first examined the immediate post-Head Start effect for each outcome separately. As shown in Figure 4-1, a positive effect is found for each

Figure 4-1

Immediate Effects on Socioemotional Development
Treatment/Control and Pre/Post Studies



	Self-Esteem	Achievement Motivation	Social Behavior
N =	2	6	5
n =	3	10	5
SD =	.79	.28	.27

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

measure. For achievement motivation and social behavior, this effect is in the educationally meaningful range. For self-esteem, the effect falls slightly below this range. However, it appears that Head Start is successful in affecting socioemotional development when measured immediately at the program's conclusion.

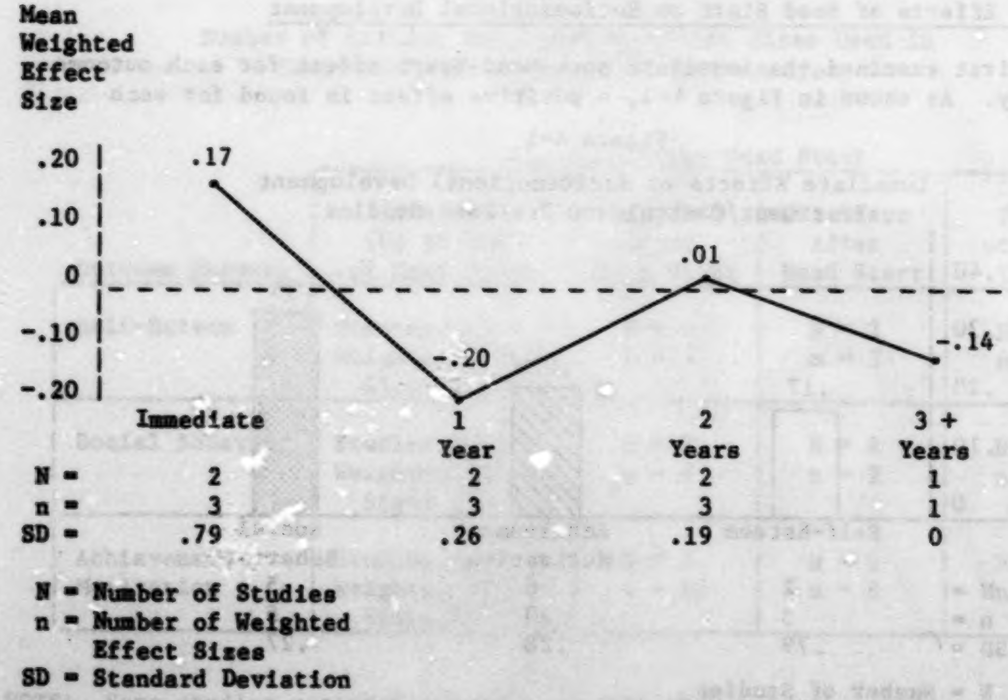
Long-Term Effects of Head Start on Socioemotional Development

In this section, we examine the effect of Head Start separately for each type of socioemotional measure. Head Start's long-term effects up to three years after the end of the program are assessed.

Self-esteem. High self-esteem, or a positive attitude about oneself, has been shown to be an important correlate in many areas of social and academic life. Figure 4-2 shows the impact of participation in Head Start on self-esteem measured at all four time points. One year after the end of Head Start, self-esteem falls precipitously to an effect size of -.20. Thus, at this point, Head Start children have lower self-esteem than children who did not participate in the program. By year two, self-esteem rises so that there

Figure 4-2

Self-Esteem:
Immediate and Long-Term Effects



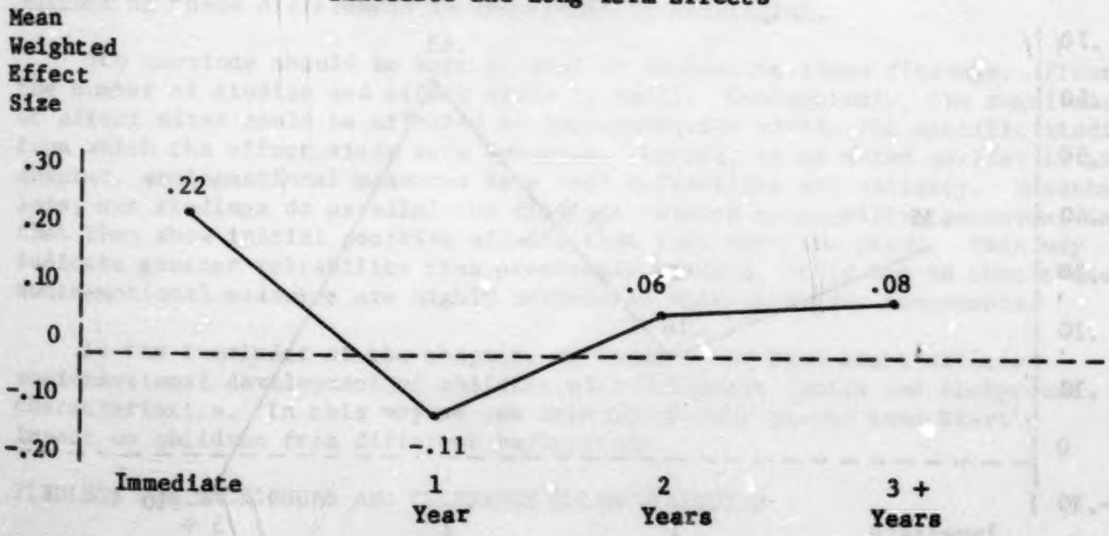
is virtually no difference between the groups of children at this time. After the third year, however, self-esteem has once again fallen, so that Head Start children have lower self-esteem than children who were not in the program.

Achievement Motivation. Achievement motivation has been found to be one of the most stable aspects of a child's personality. It is also correlated with later achievement, IQ gains, and interest in cognitive mastery. Measures of achievement motivation were the most commonly used socioemotional measures in the studies included in this review. The mean effect sizes by measurement time are shown in Figure 4-3.

The pattern of effect sizes for achievement motivation is very similar to that found for self-esteem measures. Head Start has initial positive effects on achievement motivation with increases around a quarter of a standard deviation. After one year, there is a dramatic decline so that Head Start children actually score lower on these measures than control group children. At years two and three, the Head Start children are no longer below controls but have achievement motivation scores slightly higher (though not meaningfully so) than control children.

Figure 4-3

Achievement Motivation:
Immediate and Long-Term Effects



N =	6	7	3	2
n =	10	15	8	5
SD =	.28	.52	.28	.18

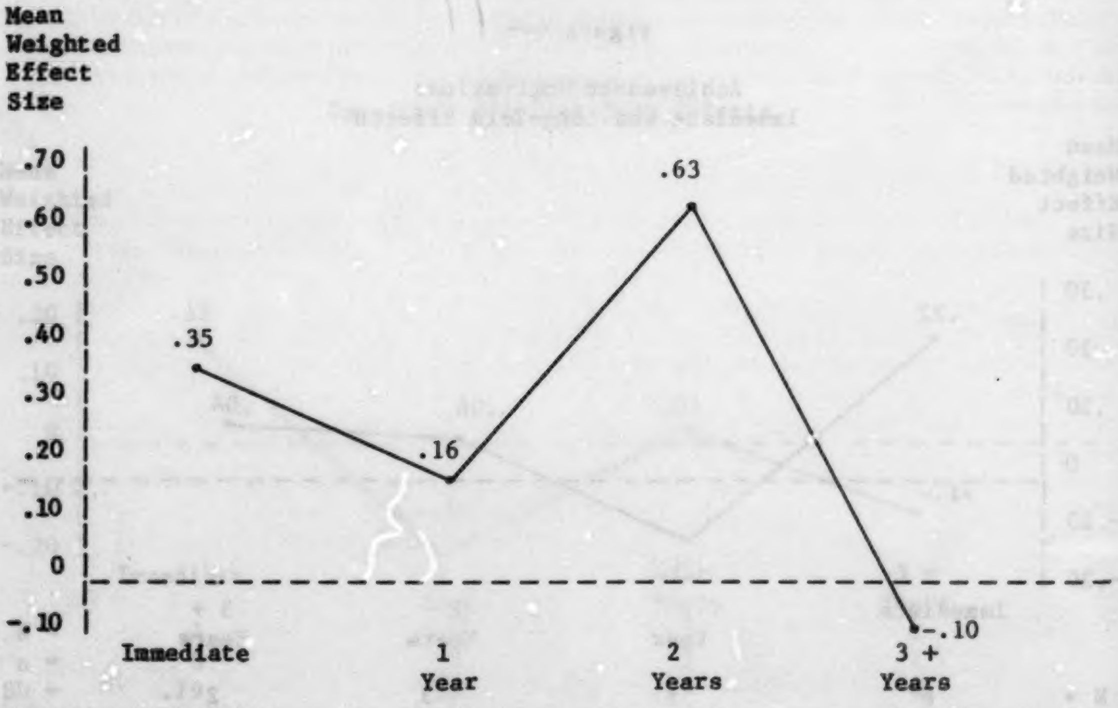
N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

One possible reason for this pattern of findings is that Head Start children may become discouraged when they enter school and have to compete with more advantaged classmates. The supportive atmosphere of the Head Start classroom, while producing immediate positive effects, may not prepare children for the relatively harsher normal school environment. For this reason, Head Start children perform worse during their first year in school. In subsequent years, however, the children become more adjusted to school and recover from this initial decline to score approximately the same as control group children on self-esteem and achievement motivation measures.

Social Behavior. As children mature, they must learn to interact with adults and other children in socially appropriate ways. Head Start is highly successful in promoting positive social behavior, as is evident from Figure 4-4. The immediate gain of Head Start children of over a third of a standard

Figure 4-4

Social Behavior:
Immediate and Long-Term Effects



	Immediate	1 Year	2 Years	3 + Years
N =	5	3	2	2
n =	5	4	2	2
SD =	.27	.20	1.12	.14

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

deviation persists for two years, falling at year one but increasing to .63 at year two. Only at the third year does the effect of Head Start fade. At that time, there is a large drop such that children who attended the program are slightly below control children.

Summary

Participation in Head Start has immediate effects on children's socioemotional development. When measured at the conclusion of the Head Start program, children show educationally meaningful increases in social behavior and achievement motivation up to one-half of a standard deviation, and positive effects for self-esteem just below the meaningful range. For measures of social behavior, these gains persist for two years after Head Start. The effects fade by the third year, however, and at that point Head Start children score slightly lower on measures of social behavior than control group children.

The effects of Head Start do not persist in the areas of achievement motivation and self-esteem. Head Start children perform notably worse than control group children on these measures one year after the end of Head Start. They tend to improve and score approximately as well as control group children in the second year, however. By the third year after Head Start, children who attended the program are once again higher than control group children in achievement motivation and lower in self-esteem, although neither of these differences is educationally meaningful.

Two cautions should be kept in mind in evaluating these findings. First, the number of studies and effect sizes is small. Consequently, the magnitude of effect sizes could be affected by idiosyncracies within the specific studies from which the effect sizes were computed. Second, as we noted earlier in the chapter, socioemotional measures have poor reliability and validity. Nonetheless, our findings do parallel the findings related to cognitive measures, in that they show initial positive effects that fade over the years. This may indicate greater reliability than previously assumed, or it may be that these socioemotional measures are highly correlated with cognitive components.

In the remainder of the chapter, we examine how Head Start affects socioemotional development of children with different family and background characteristics. In this way we can more accurately assess Head Start's impact on children from different backgrounds.

FINDINGS FOR BACKGROUND AND CLASSROOM CHARACTERISTICS

This section examines the effects of Head Start on the socioemotional development of children from different backgrounds and within different types of programs and classroom settings. Previous research has demonstrated that these factors can significantly affect child outcomes.[9] Background characteristics analyzed are socioeconomic status (SES), pretest IQ, age at enrollment, gender composition of class and minority composition of class. Classroom characteristics investigated are type of curriculum, whether the curriculum was based on a specified theory of child development and, if so, the type of theory, class size, whether the curriculum emphasized language, percent of staff from minority groups, and percent of staff with a degree in early childhood education. In these analyses, it is important to remember that the unit of analysis is not the individual child, but the Head Start class.

Our efforts to examine these characteristics were severely restricted by the paucity of available data. Researchers often failed to report descriptions of programs, classes, and child background altogether, or were cryptic in their descriptions. Thus, we are limited by the information provided by the individual studies. In all cases, our findings are based on a very small number of studies and weighted effect sizes. Caution should be exercised in drawing conclusions about the effects of the Head Start program and findings should be considered descriptive. In most analyses, we are able to examine only the achievement motivation measure, since there were not enough studies that used self-esteem and social behavior measures. A global measure of socioemotional development was also computed to make use of all available studies and comparisons. However, this global measure produced essentially the same results developed using the achievement motivation measures alone. Therefore, we present only the achievement motivation measure results as this variable has been extensively investigated by Head Start researchers.

Differential Effects for Background Characteristics

In this section, five different background variables are examined individually. In the next section, results of analyses of seven different program and classroom variations are presented. Each variable is examined separately. The optimal analytic strategy for investigating these relationships, however, is to conduct multivariate analyses where all variables are examined simultaneously. For example, multiple regression or analysis of variance would be well suited for this purpose. Unfortunately, multivariate methods are impossible here due to the small number of studies and comparisons available. The following individual analyses, however, will provide an indication of how Head Start interacts with these background variables both immediately and up to three years after the program.

---

[9] Mussen, Conger and Kagan, op. cit.
Jencks, Christopher, et. al. Inequality: A Reassessment of the Effect of Family and Schooling in America. New York: Harper and Row, 1972.
Abt Associates. Children at the Center. Final Report of the National Day Care Study. Cambridge, MA, 1979.
Bronfenbrenner, U. Is Early Intervention Effective? Washington, DHEW, 1974.

Some of the variables examined here, as well as some of the categories within variables (e.g., curricula), differ from those used in the analysis of cognitive effects. This is due to the small amount of information on these variables that was available. We conducted analyses on all the data we had. Unfortunately, these data did not always correspond to the data available in the analysis of cognitive effects.

Socioeconomic status. The Head Start program is designed for children from lower socioeconomic backgrounds (SES). The children in the studies included in this review were all from the lower SES stratum. Studies that used middle-class children as controls were not included in our meta-analysis. Nonetheless, there was still sufficient variation within this lower SES level to allow for comparisons.

The following SES indicators were coded: mean educational attainment (highest grade completed) of mothers of children in Head Start, mean number of people in the family, mean number of children in the family, and percentage of children from single-parent households. All of these variables are good indicators of SES. Maternal education is a strong correlate of income and occupational status, and single-parent families are generally headed by women and are more likely to be poorer than two-parent families. Family size is also useful to reflect both economic status and to indicate the potential availability of parental time, attention, and resources. Larger families are expected to have fewer resources per person and less time to devote to each child.

Two SES groups were created, based on these variables as in Chapter III. The lower group was composed of classes where one or more of the following conditions existed:

- mean maternal education was less than the eleventh grade;
- the number of people in the family was greater than six or the number of children in the family greater than four;
- more than 50% of the class was composed of children from single-parent families.

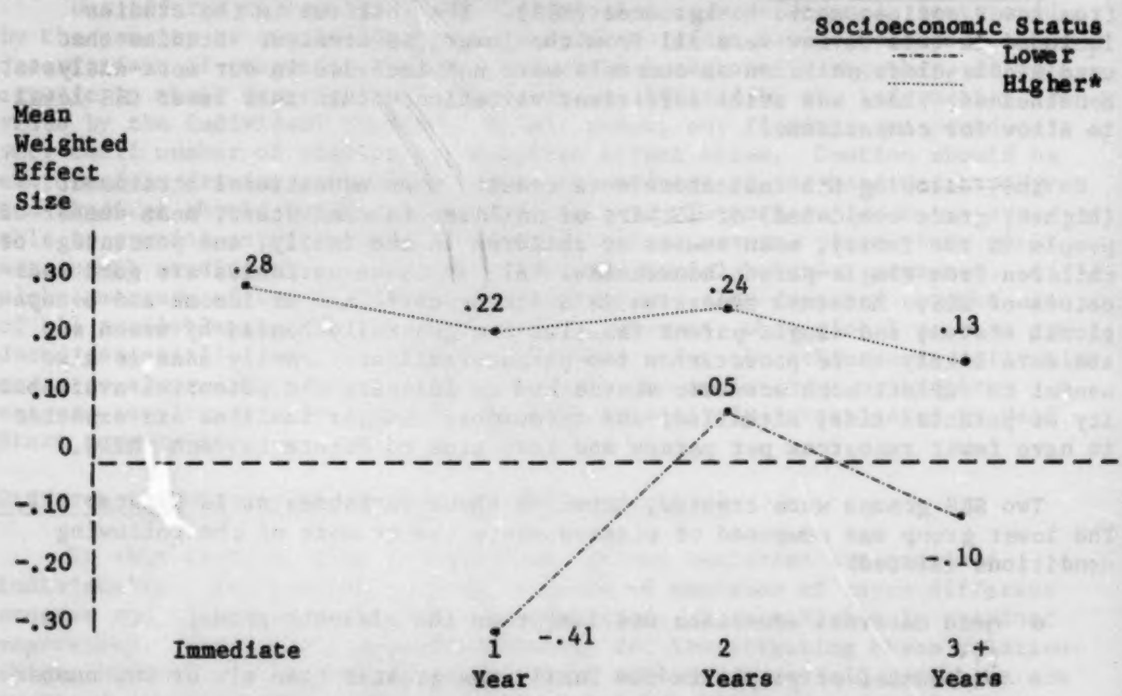
Classes where none of these conditions held composed the second group of higher SES. We then compared the impact of Head Start on these two groups.

Generally, children from lower SES backgrounds score lower on tests of cognitive and socioemotional development than middle-class children. There are two ways in which Head Start participation may affect this relationship. Head Start, as a compensatory education program, might be expected to have the greatest impact on children from the lowest SES stratum. Those children who enter the program at the greatest disadvantage have the most to learn and, thus, will make the greatest gains. (The statistical phenomenon of "regression to the mean" can also play a role in the increases in these scores.) Conversely, it can be argued that children with greater economic and family advantages will be in a position to maximize their learning in the program.

We tested these hypotheses using the effect sizes from the achievement motivation measures. Figure 4-5 shows a remarkable pattern of findings for the two groups.

Figure 4-5

Socioeconomic Status:
Immediate and Long-Term Effects on Achievement Motivation



	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Higher SES	3	6	.32	3	7	.51	1	4	.24	1	4	.18
Lower SES	--			2	4	.17	1	1	0	1	1	0

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

*NOTE: Both groups of children are from the same SES stratum. "Higher" SES children are operationally defined as explained in the text, but are not middle-class or upper-class children.

Children in classes with higher SES show an immediate gain in achievement motivation after completing Head Start, with an effect size of .28. This gain remains high after the first and second year following the program. By the third year, these children still perform better than control group children, though the effect size is below the educationally meaningful range. Children from lower SES perform notably differently. While no studies compared the immediate impact of Head Start on achievement motivation for lower SES classes, by the end of the first year we find that these children are scoring well below the control group on measures of achievement motivation (-.41). By the second year, the lower SES Head Start children have caught up with and are slightly ahead of control group children, but after the third year they have again fallen slightly below their counterparts. Thus, Head Start has a positive and lasting influence on achievement motivation for the higher SES group children. However, the program does not appear to have a lasting influence on children from the lowest SES backgrounds for these measures. These findings should be interpreted cautiously since they are based on a very small number of studies and effect sizes.

These findings parallel findings for cognitive measures and SES (See Figure 3-21). In that analysis, children from the lower SES stratum were found to score lower on cognitive measures. It is possible that there is a relationship between cognitive development and achievement motivation. Perhaps lack of success in cognitive skills leads to a lower expectation and motivation to achieve in children (or vice-versa). While the data do not allow us to evaluate this possibility, it is a worthy topic of further research.

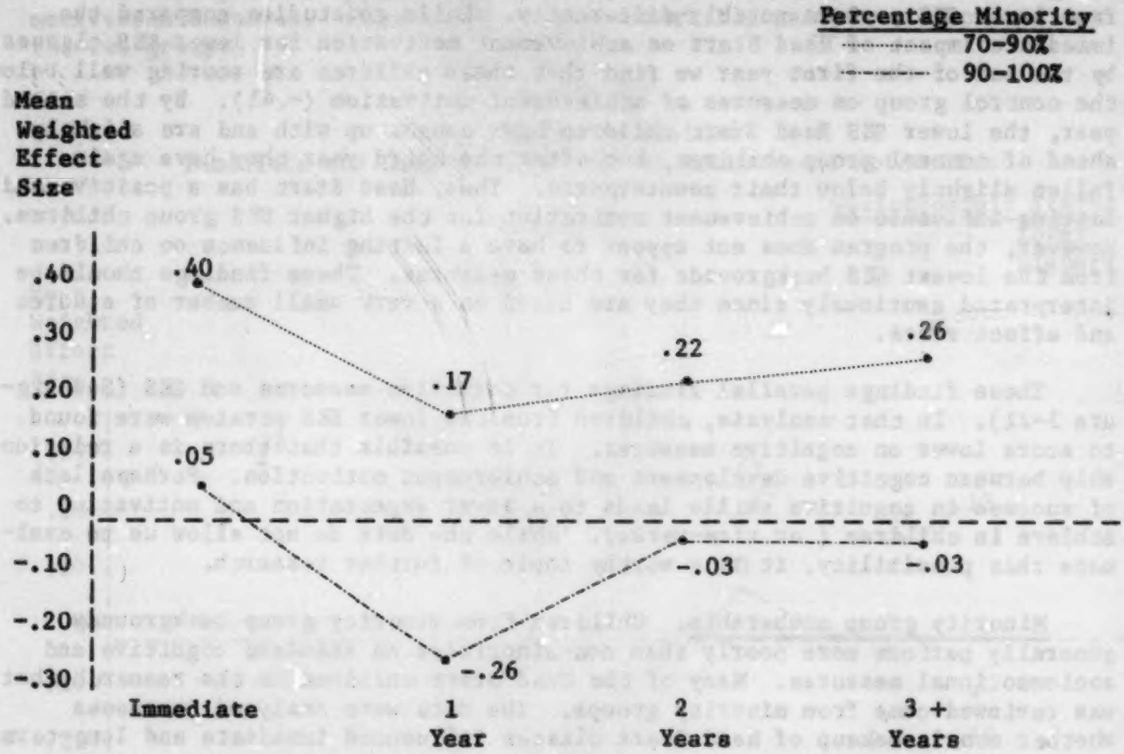
Minority group membership. Children from minority group backgrounds generally perform more poorly than non-minorities on standard cognitive and socioemotional measures. Many of the Head Start children in the research that was reviewed came from minority groups. The data were analyzed to assess whether ethnic makeup of Head Start classes influenced immediate and long-term gains. As with the SES indicators, however, very few studies reported the minority group composition of classes. Comparisons were possible only for classes in which the ethnic composition was slightly mixed (70%-90% minority) compared to those with higher proportions of minority children (90%-100%).

Figure 4-6 shows the comparison of the two groups on achievement motivation. The pattern of effect sizes is similar to that found for SES. In the more integrated classes, Head Start produces a strong immediate effect on achievement motivation, indicated by an effect size of .40. After the first year, the effect falls considerably and stabilizes in the low .20's for up to three years after Head Start. Thus, gains for these classes persist at approximately the educationally meaningful level.

This is not so for classes with almost exclusive ethnic composition. They show no gain after Head Start (.05) and after one year they score noticeably worse than control group children (-.26). They recover from this decline, however, and for years two and three score approximately the same as control children on achievement motivation measures.

Figure 4-6

Minority Composition of Class:
Immediate and Long-Term Effects on Achievement Motivation



	Immediate			1 Year			2 Years			3 + Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
70-90%	3	4	.29	2	2	.25	2	3	.18	1	2	.12
90-100%		4	.27	5	9	.58	2	5	.30	2	3	.10

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

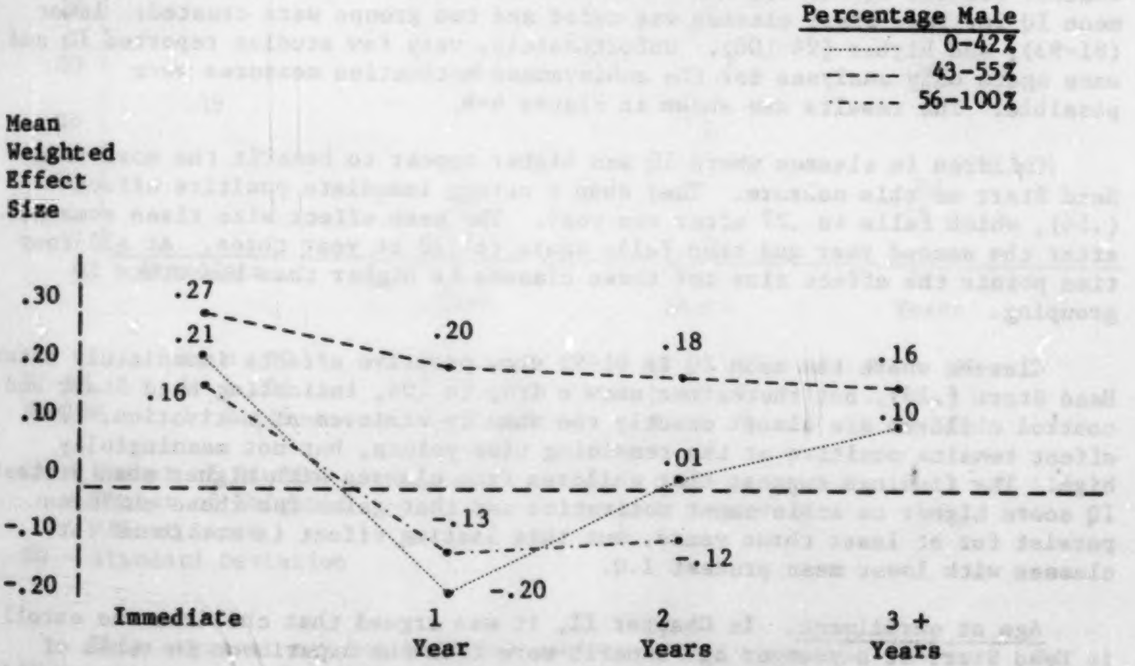
To summarize our findings on minority composition of Head Start classes, Head Start does not appear to have a lasting impact on achievement motivation for classes composed almost exclusively of minority children. These children showed no immediate increase and scored lower on these measures than controls after the first year. By the second and third years, there is some recovery, but Head Start children are either equal to or slightly below controls at these times. In contrast, children from classes with a mix of minority and white children show stable gains in achievement motivation that persist for up to three years. After a drop from their initially high gains over controls, they remain meaningfully higher than controls.

Gender composition. The gender composition of Head Start classes in the studies was recorded by coding the percentage of male children in each class. We trichotomized the classes into those that were 0-42% male, 43-55% male, and 56-100% male. In this way, we compared classes in which one sex predominated to classes with an equal mix of boys and girls.

As shown in Figure 4-7, an interesting pattern emerges from this analysis using the achievement motivation measures. Immediately after Head Start, all three groups show a similar positive effect, though only classes with approximately equal numbers of males and females have effects that are educationally meaningful (.27). Over time, however, the predominantly female classes show the now familiar trend for achievement motivation; by the first year there is

Figure 4-7

Gender Composition of Class:
Immediate and Long-Term Effects on Achievement Motivation



	Immediate			1 Year			2 Years			3 + Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
0-42%	3	3	.45	3	4	.78	2	3	.27	1	2	.24
43-55%	3	4	.24	3	5	.27	2	3	.35	1	2	.18
45-100%	3	3	.15	2	2	.34	1	1	0	--		

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

a steep drop in effect size so that Head Start classes have lower achievement motivation scores than controls. There is a subsequent recovery at years two and three, so that Head Start children are performing approximately as well or slightly better than controls. Classes that are predominantly male show this same drop in effect size at year one, but there is no recovery at year two. We have no data for year three for this group.

Classes with an approximately equal number of males and females show the most positive effects for Head Start. Not only do they have the highest mean effect size immediately after the program, but they show only a small drop at year one and very little change thereafter. Unlike classes where one sex predominates, they always score ahead of controls. Head Start appears to have a lasting effect on these children, although effect sizes are slightly below the educationally meaningful level.

Pretest IQ. The level of a child's IQ at program entry may affect his/her benefit from Head Start. Thus, an analysis was conducted to determine whether pretest IQ was related to differential effects of Head Start. The mean IQ for Head Start classes was coded and two groups were created: lower (81-93), and higher (94-108). Unfortunately, very few studies reported IQ and once again only analyses for the achievement motivation measures were possible. The results are shown in Figure 4-8.

Children in classes where IQ was higher appear to benefit the most from Head Start on this measure. They show a strong immediate positive effect (.56), which falls to .27 after one year. The mean effect size rises somewhat after the second year and then falls again to .28 at year three. At all four time points the effect size for these classes is higher than the other IQ grouping.

Classes where the mean IQ is 81-93 show positive effects immediately after Head Start (.19), but thereafter show a drop to .04, indicating Head Start and control children are almost exactly the same in achievement motivation. The effect remains positive at the remaining time points, but not meaningfully high. The findings suggest that children from classes with higher mean pretest IQ score higher on achievement motivation and that gains for these children persist for at least three years, but this lasting effect is not found for classes with lower mean pretest I.Q.

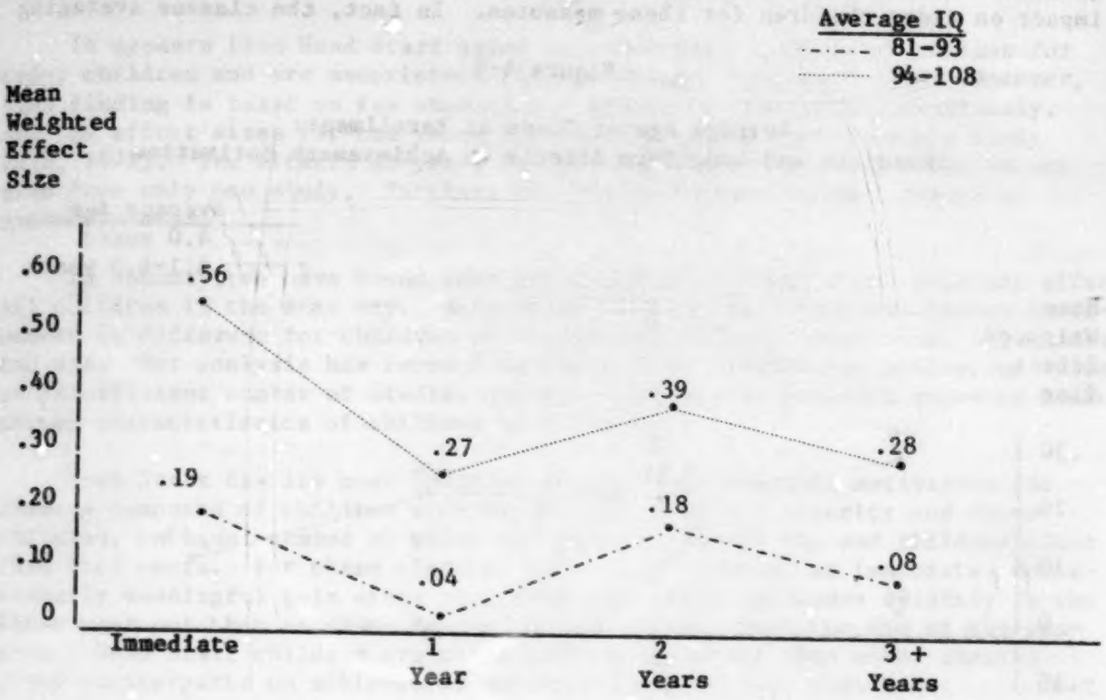
Age at enrollment. In Chapter II, it was argued that children who enroll in Head Start at a younger age benefit more from the experience in terms of their cognitive development. Bronfenbrenner contends that intervention should begin at age three with a parent-child emphasis and evolve into group intervention situations.[10] One reason for this is that if children begin at an earlier age, intervention is usually longer. Also, younger children are at an earlier stage of development and, consequently, there is greater potential to affect them through an early intervention program.

---

[10] Bronfenbrenner, op cit.

Figure 4-8

Average Class Pretest IQ:
Immediate and Long-Term Effects on Achievement Motivation



	N	n	SD	N	n	SD	N	n	SD	N	n	SD
81-93	2	4	.26	2	5	.32	1	3	.27	1	3	.18
94-108	2	2	.26	2	3	.13	1	1	0	1	1	0

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

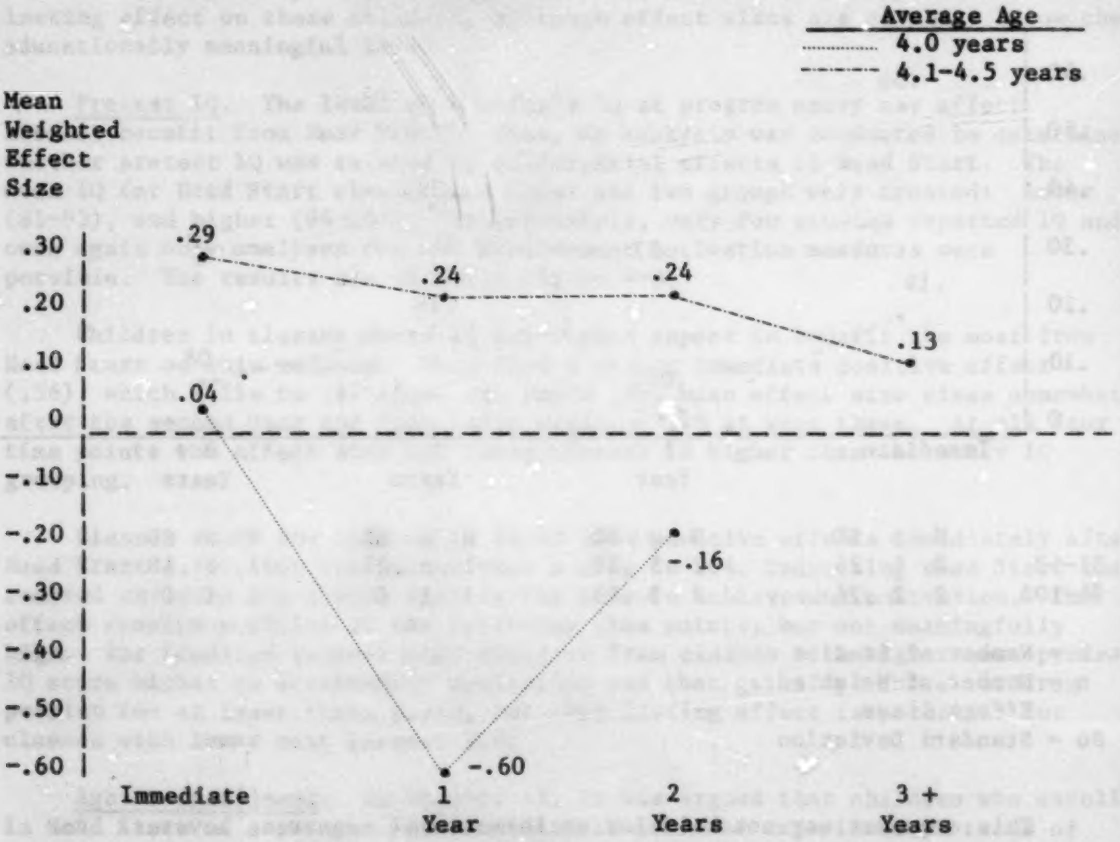
This argument may not hold for socioemotional measures, however. For these measures, older children may benefit more. For example, achievement motivation may not develop until the child has had sufficient experience with the world to learn to desire mastery of skills and work towards a goal.

There is little variation in the age of children in the sample of studies that comprise our review for this analysis. A third of the classes from which we have information have a mean age at enrollment of 4 years, and the range for the entire sample of studies is 4-5.8 years.

Figure 4-9 shows effect sizes for the achievement motivation measures separately for classes where the mean age at time of enrollment in Head Start was 4 years and classes where the mean age at enrollment ranged from 4.1 to 4.5 years. (Only one study had an average age of over 4.5 years so it was not included in this analysis.) These data show that Head Start has a stronger impact on older children for these measures. In fact, the classes averaging

Figure 4-9

Average Age of Class at Enrollment:
Immediate and Long-Term Effects on Achievement Motivation



	N	n	SD	N	n	SD	N	n	SD	N	n	SD
4.0	1	2	.23	1	3	.58	1	3	.21		--	
4.1-4.5	4	7	.29	2	5	.34	1	4	.24	1	4	.18

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

4.0 years perform worse than controls at all three time points after Head Start where data are available. In contrast, Head Start has a strong immediate positive effect on classes with older children. After a small drop at the end of the first year, this effect persists through year two and drops again at year three.

It appears that Head Start gains in achievement motivation persist for older children and are nonexistent for the younger four-year-olds. However, this finding is based on few studies and should be interpreted cautiously. All the effect sizes for the young four-year-olds are from a single study (ETS, 1971). The effects at years two and three for the older children are also from only one study. Further, the age difference between groups is extremely small.

In summary, we have found that participation in Head Start does not affect all children in the same way. Head Start's influence on socioemotional development is different for children of varying SES, ethnic background, IQ, gender and age. Our analysis has focused on measures of achievement motivation, since an insufficient number of studies using other types of measures reported background characteristics of children in the program.

Head Start has its most positive effect on achievement motivation for classes composed of children with higher SES, a mix of minority and white children, an equal number of males and females, higher IQ, and children older than four years. For these classes, Head Start produces an immediate, educationally meaningful gain after participation, which decreases slightly in the first year but then persists for up to three years after the end of the program. Head Start children are still performing better than their control group counterparts on achievement motivation measures at that time.

Head Start does not have a lasting effect on achievement motivation for children in classes with lower SES, classes where males or females are in the majority or classes composed of virtually all minority children. In these classes, Head Start has an immediate positive effect which dissipates very sharply. By the end of the first year, Head Start children from these classes have considerably lower achievement motivation than comparable children who have not participated in Head Start. Head Start children subsequently recover from this decline and by the end of the second and third years after the program are doing approximately as well as controls. Children from classes with higher mean IQ (94-108) consistently score higher on measures of achievement motivation than classes of children with lower mean IQ (81-93) at all time points. This finding, and that for SES, parallel findings for cognitive outcomes reported in Chapter III.

For children from classes where the mean age was four, Head Start has no immediate effect on achievement motivation, and in subsequent years these children score lower on these measures than control children. Again, however, this finding is based on few studies and may be unreliable.

Since the analyses reported here rely on aggregate data (i.e., classes of children), it is not possible to conclude that classes composed of fewer minority children, higher mean pretest IQ, or higher SES will automatically result in improved performance for all children in the class. It is possible that only the higher SES, higher IQ, and non-minority children improve, thereby raising the group mean. This concern does not extend to the sex composition of classes since the mixed group performed better than classes with more boys or more girls. Thus, it appears that an equal mix in the classes is beneficial to both sexes.

Classroom Characteristics and Socioemotional Development

Although ACYF has published Performance Standards for Head Start, the program has never required a specific curriculum, particular philosophies of staff training, or strict classroom configurations. Head Start provides local centers with the flexibility to develop their own programs. Consequently, there is considerable variation in how Head Start classes are conducted and organized. In a previous paper, we examined the effects of classroom variation in Head Start.[11] Here, we wanted to examine the influence of these variables on socioemotional development. Our coding form contains categories for several program characteristics, as can be seen in Appendix C (e.g., class size, staff training, curriculum variation). Unfortunately, very few studies reported program information. We did not have a sufficient sample size to examine most of these variables, as, typically, only one or two studies would be available for comparisons of a particular classroom or program variable.

Due to the few studies that reported this information, we are unable to report findings that may inform policy decisions on the effects of program and classroom variation. This is especially true for staff and classroom characteristics. However, since we have some information on curricula, we offer a brief summary of our findings on curricular variation for the interested reader. As with the child background analyses, we were limited in most cases to examining measures of achievement motivation. Since all comparisons are based on a small number of studies, findings are presented descriptively and are more valuable heuristically for planning further research into Head Start than for drawing firm inferences.

Curricula emphasizing general cognitive principles produced the greatest gains in achievement motivation. Traditional curricula, which place greater emphasis on socioemotional development, were not as effective. Perhaps cognitive curricula produce greater competence in cognitive areas which lead the child to greater confidence and subsequently higher achievement motivation. Curricula using eclectic approaches were not as effective in influencing achievement motivation and, in fact, children enrolled in these curricula scored lower than controls. This same negative effect for eclectic curricula was found for measures of social behavior and self-esteem as well. Montessori curricula produced immediate positive effects on achievement motivation which dissipated at the end of the third year after Head Start. The Bereiter-Engelmann method produced positive effects on achievement motivation but the effects were not educationally meaningful.

---

[11] Hubball, R. and Harrell, A. The Effect of Variation in Classroom Characteristics in Head Start Programs on Children's Cognitive and Socioemotional Development. Washington: CSR, Incorporated, 1984. Unpublished paper.

Theory-based curricula have greater immediate gains in achievement motivation than curricula not based on theory, but the difference is not educationally meaningful. The difference dissipates by the end of the first year. Curricula based on Piagetian theory are most effective in improving achievement motivation, while behavioral and multiple-based theories were least effective, the latter resulting in negative effect sizes.

Curricula with language interaction emphasis as a primary goal produced greater gains in achievement motivation than curricula with a secondary emphasis. This effect faded by the end of the third year.

SUMMARY OF FINDINGS

Head Start has been shown to have positive effects on socioemotional development. In many cases, the strength and duration of the effect depends on the type of measure and background characteristics of the children in the program. We summarize these findings here and conclude with interpretations of the meaning of the findings.

Overall effects. Head Start has immediate positive effects on all three categories of socioemotional measures: self-esteem, social behavior, and achievement motivation. Effects are strongest and most lasting for social behavior measures, which persist for two years after Head Start.

Self-esteem and achievement motivation measures show a different overall pattern. After the initial immediate gains, Head Start children score below controls at the end of the first year and thereafter there is little difference between them and controls. Thus, there does not appear to be a long-term effect of Head Start for measures of self-esteem and achievement motivation and, in fact, participation in Head Start appears to result in a decline in first year performance on these measures. As seen below, this pattern varies depending on the background characteristics of the children.

Socioeconomic status. Children from higher SES backgrounds show a strong immediate effect from Head Start which fades slowly over time but remains educationally meaningful until the third year. We had no information on the immediate effects for lower SES children; by the end of the first year, however, they are substantially below controls on achievement motivation but recover from this deficit and are scoring about the same as controls thereafter. It appears that Head Start does not have a lasting effect on the achievement motivation of lower SES children but does have meaningful effects

Minority group membership. Classes composed of a mix of minority and white children show a lasting effect of Head Start over three years on measures of achievement motivation. After a strong immediate effect, there is an initial drop in year one, but an educationally meaningful effect persists up to three years after Head Start. Classes composed almost exclusively of minorities, however, show no immediate effect, then fall below controls at year one, and thereafter score approximately the same as controls on achievement motivation. Head Start does not appear to have a lasting effect on classes with high minority composition for achievement motivation measures.

Gender composition. On measures of achievement motivation, classes with approximately equal proportions of males and females have consistently higher effects from Head Start than classes where one sex predominates. Moreover, classes where there is an equal mix of the sexes show strong immediate effects from Head Start which fade gradually over three years. Classes where either sex predominates show immediate positive effects, followed by a negative effect size at the end of the first year and little difference from controls after the second and third year.

IQ. Classes with higher pretest IQ have very strong positive gains in achievement motivation immediately after Head Start which fade somewhat after the first year but persist at a meaningful level for up to three years. Classes with lower IQ show no consistent pattern.

Age at enrollment. Older children (4.1-4.5 years) appear to be positively affected by Head Start on achievement motivation measures. They show immediate gains that persist for two years and fall below meaningful levels (but remain positive) at the end of three years. In contrast, younger children (4 years old) have negative effects at all times on these measures.

Suggestions for Future Evaluation

While Head Start has an immediate effect on all three types of measures of socioemotional development, the effects for achievement motivation measures (and apparently self-esteem measures) follow one of two patterns over time. Either effects persist at a meaningful level for an additional one or two years; or, in the first school year, Head Start children score below controls and thereafter, there is no difference between Head Start and control children in years two and three. The former pattern was found for classes where children are from a higher SES background, have both white and minority groups, have an approximately equal number of boys and girls, are older, or have higher IQ. The latter pattern was found for classes where children are from a lower SES background, are exclusively minority, or where one sex predominates.

We emphasize that the findings reported in this chapter are descriptive in nature and should not be the basis of firm conclusions about the effects of Head Start, since findings are based on only a small number of studies. The diversity in Head Start programs and the diversity of topics addressed by Head Start studies produced a body of literature which supports meta-analysis only for topics covered by a large number of studies. That is, the lack of homogeneity in subjects and design makes it extremely difficult to conduct a quantitative synthesis of findings on rarely studied topics. With such small samples, it is simply not possible for a meta-analysis to determine definitive differences for class size and program characteristics. Differences may be obscured by variation in the programs being compared, the study design, child background characteristics or in the treatment effect.

The treatment effect of the Head Start program appears to be a strong one that overrides the other variables selected for study. It is evident that multivariate analyses are needed to isolate the treatment effects from the influence of the various other independent variables and to isolate the effect of these independent variables from one another. Unfortunately, multivariate analyses could not be conducted due to the small sample size. The very diversity of the Head Start program implemented in various localities, and the diversity of the types of children in the program, suggest a need for strong experimental and statistical controls to draw conclusions across studies.

Future researchers may use the relationships uncovered in this analysis to direct additional work. Our examination of previous Head Start research has raised many questions that can only be answered through further, well-designed studies. For example, we found that Head Start classes with an approximate equal mix of males and females resulted in higher achievement motivation than classes where either sex was the majority. This finding has never before been reported in the Head Start literature. Indeed, gender composition of Head Start classes has been rarely studied. It appears that an equal mix of boys and girls may result in beneficial changes in socioemotional development. Or the effect may be an artifact of some unknown self-selection process which led to the gender composition of the classes in the studies used in the analyses. Whatever the reason for this finding, it should certainly be a topic for future research in this area. A future study could manipulate the gender composition of Head Start classes to determine whether this is a robust effect.

The pattern of findings for low SES and high minority classes presents another provocative topic for investigation. In addition, some of our findings confirm previous research on Head Start, while other findings are contradictory to the results of well-designed previous studies. We cannot select those that are consistent and disregard those that are not. All are based on essentially the same group of studies with the same problems and characteristics. It is only through careful, further research that such discrepancies can be resolved.

[illegible] topics covered by a large number of studies. Finally, the lack of [illegible] which it is extremely difficult to conduct a compre[illegible] of 11 large [illegible]. With such small [illegible] it is simply not possible [illegible] a more complete analysis [illegible] directions for class size [illegible] the characteristics [illegible] obtained by variation of the program being examined, the [illegible] background characteristics of [illegible] effect.

The treatment effect of the Head Start program appears to be strong enough that overrides the other variables selected for study. It is evident that multivariate analyses are needed to isolate the treatment effect from the influence of the various other independent variables and to isolate the effect of these independent variables from one another. Unfortunately, multivariate analyses could not be carried out due to the small sample size. The very diversity of the Head Start program, in terms of various facilities, and the diversity of the types of children in the program, suggest a need for strong experimental and statistical controls to draw conclusions of this kind.

Future researchers may wish to consider the questions uncovered in this analysis to direct additional work. Our examination of previous Head Start research has raised many questions that can only be answered through further well-designed studies. For example, we found that Head Start classes which were approximately equal mix of males and females resulted in higher achievement gains than classes where either sex was the majority. This finding has never before been reported in the Head Start literature. The sex composition of Head Start classes has been rarely studied. It appears that having equal mix of boys and girls may result in beneficial changes in socio-emotional development. On the other hand, it may be an artifact of some unknown class selection process which led to the gender composition of the classes in the studies used in the analyses. Whatever the reason for this finding, it should certainly be a topic for future research in this area. A [illegible] of [illegible] composition of Head Start classes to determine whether this is a robust phenomenon is [illegible].

The pattern of findings for [illegible] positive [illegible] in the previous research on Head Start, [illegible] findings and [illegible] the results of [illegible] previous studies. We cannot, [illegible] consistent [illegible] the same group of students [illegible] and characteristics. It is [illegible] such [illegible] be clarified.

CHAPTER V

THE IMPACT OF HEAD START ON CHILD HEALTH AND HEALTH INSTITUTIONS IN THE COMMUNITY

INTRODUCTION

Healthy children and parents knowledgeable of the need for appropriate health care are central goals of Head Start. The program recognizes that the physical well-being of children is an essential component of development as well as a prerequisite to maximizing learning experiences. Head Start has mandated that a wide range of preventive and remedial health services be available to enrolled children. Thus, by meeting the child's medical, dental and nutritional needs, the program seeks to augment the participating child's overall development.

The "Cooke memo" of 1965 describes the philosophical basis of the program: "successful programs of this type must be comprehensive, involving activities generally associated with the fields of health, social services and education."[1] The original Head Start Planning Committee recognized the likelihood that low-income children would be at an elevated risk for health problems and would be less likely to obtain needed health services. The memo, describing the original rationale and philosophy of the program, states: "Many of these children have been totally neglected in terms of health evaluations and services since infancy."[2]

Physicians, heavily represented on the original Head Start Planning Committee, designed a program which included a strong health component. The first major objective for the program states "improving the child's physical health and abilities."[3] Further, the original memo includes guidelines on activities designed both to evaluate the child's problems and to provide remedial and developmental services. Both assessment and service provision were emphasized, with Head Start taking the lead role in assessment and mobilization of community resources to provide needed services and follow-up.

In 1975, the Head Start Performance Standards were developed to reinforce and clarify the program's goals. The Performance Standards improved the program's health component by delineating standardized guidance to program operators about the specific health and nutrition services required. The Performance Standards list the three general objectives of the Head Start health component:

---

[1] "Recommendation for a Head Start Program by Panel of Experts, Chairman, Dr. Robert Cooke; February, 1965." U.S. Department of Health, Education, and Welfare, Office of Child Development, Washington, D.C., 1972.

[2] Ibid.

[3] Ibid.

- Provide a comprehensive health services program which includes a broad range of medical, dental, mental health and nutrition services to preschool children, including handicapped children, to assist the child's physical, emotional, cognitive and social development toward the overall goal of social competence.
- Promote preventive health services and early intervention.
- Provide the child's family with the necessary skills and insight and otherwise attempt to link the family to an ongoing health care system to ensure that the child continues to receive comprehensive health care even after leaving the Head Start program.[4]

This chapter reviews the available literature on the effect of Head Start on the health of Head Start children, their families, and community health institutions. Areas reviewed include: general health and nutrition; dental health; health impacts on handicapped children; and mental health. In addition, Head Start's impact on health education for parents and children and on community health institutions is examined.

The review focuses primarily on research that examines the effects of Head Start on the health of children. Some descriptive studies are included to provide a context for understanding the need for health services and the Head Start health service delivery system. No studies were excluded because they reported negative or nonsignificant findings. The quality of the studies was considered in drawing conclusions.

RESEARCH QUESTIONS

This chapter addresses several central research questions relating to the health component and its impact on participants:

1. What are the effects of Head Start on participating children in the following areas:
   - physical health
   - nutrition
   - dental health
   - mental health
2. What health effects does the program have on handicapped children?

---

[4] Head Start Program Performance Standards. Administration for Children, Youth and Families, Washington: DHHS, 1975, p. 1.

3. How does health education offered to parents and children affect the participants?

4. What is the impact of Head Start on community health institutions?

The following major sections of this chapter include a description of the methodology used to develop this chapter and three background sections to provide a context for understanding the findings. The background sections review the historical role of health in Head Start, describe the Head Start health delivery system, and provide an overview of the Abt Associates (1984) study, the largest and most comprehensive study of the impact of Head Start health services. These background sections are followed by two findings sections. The first discusses the impact of Head Start on children's health. The second discusses the impact of Head Start on health institutions. Questions 1 and 2 referenced above are addressed by the first major section on findings. The remaining questions are addressed in the findings sections which discusses the impact of Head Start on health institutions.

METHODOLOGY

The general methodological approach employed in the Head Start Evaluation, Synthesis and Utilization Project has been discussed in Chapter II of this report. Methodological aspects specific to the health analyses are presented below.

Selection of Studies

For this paper, the data bank was searched for all research documents which contain information on health impacts or descriptions of health services. (See Appendix B for listing of key words used). In addition, the data base was reviewed to identify studies relating to the impact of Head Start on community health institutions. Approximately 132 documents were generated. Of these, 34 studies met the standards for inclusion in this review as described in Chapter II.

Because of the limited number of studies and the qualitative nature of most of the data available to assess the impact of Head Start on children's health, meta-analysis procedures were not used.[5] This chapter constitutes a traditional literature review, as do the subsequent chapters on the impact of Head Start on families and communities.

Limitations of the Studies

Although the Head Start program has considerable potential for affecting the health of children, research on Head Start rarely examines this program effort. There is only one study, conducted by Abt Associates (1984), which systematically investigates the impact of Head Start's health component on children and families. The Abt study is a comprehensive examination which covers the impact in terms of a variety of indices (e.g., dental, visual, physical development), as well as including a discussion of the impact on children and their families. Other studies usually examine only one aspect of Head Start's health services, such as changes in dental health or biomedical indices. The Abt study also uses a large sample of children and includes both cross-sectional and longitudinal analysis. Most of the other studies rely on small samples in single locations and use only cross-sectional analysis.

---

[5] Glass, Gene, Barry McGaw and Mary Lee Smith. Meta-Analysis in Social Research. Beverly Hills: Sage Publications, 1981.

HISTORICAL ROLE OF HEALTH IN HEAD START

The Head Start program contains several components, e.g., education, health, social services and parent involvement, each of which contributes to the total developmental experiences of children and their parents. From its inception, Head Start has included a strong comprehensive health component. This component is based on the premise that physical and mental well-being can only be achieved through a comprehensive, well-integrated health care program. Essential parts of this program must include medical, dental, nutritional and mental health services, each with preventive, diagnostic, curative and rehabilitative aspects.

During the initial Head Start implementation efforts in the summer of 1965, funds for health assessments were provided. An evaluation of the health component efforts revealed that most programs were successful in providing medical and dental assessments and screenings, but few were able to provide or obtain treatment of identified needs. Subsequently, Head Start funds were used to purchase health services not available through existing resources. The Head Start program still operates within this model. Programs provide screening and assessment services and mediate health service delivery with other agencies. Program funds are available to provide or arrange for treatment when community resources are unavailable.[6]

To assist local Head Start programs with their implementation of health goals and procedures, the national Head Start program initiated a consultation program. Over the years, the Federal Head Start office contracted with different groups to provide consultation and support. These consultations included efforts to develop wider utilization of the Early and Periodic Screening, Diagnosis, and Treatment program (EPSDT), to provide help in program planning and evaluation, to conduct on-site reviews, to assess the training and technical assistance needs of special Head Start programs (e.g., Home Start, Parent Child Centers and Child and Family Resource Programs) and to provide specialized assistance for the health needs of handicapped children. The overall approach of the effort was to assist programs in developing and implementing a prevention-oriented, comprehensive, family and community based and holistic health component.

---

[6] North, A. F. "Health Services in Head Start." In Project Head Start: A Legacy of the War on Poverty, by E. Zigler and J. Valentine. New York: The Free Press, 1975, pp. 231-258.

There is considerable evidence supporting the relationship between and among poor nutrition, high incidence of birth complications and more prolonged and serious childhood diseases and intellectual development.[7] Children from low-income families, Head Start's target population, are more likely to have health deficiencies than more advantaged children. This likelihood was recognized by early program planners. Thus comprehensive health services for children are a central component of Head Start programs.

The continued need for health services is evidenced by research on the health status of low-income children. For example, in a study of 113 Head Start children in Missoula, Montana, Munro (1967) found that 80 percent of the children consumed less than two-thirds of the recommended allowances in at least one nutrient. This poor nutrition was due to the limited financial and physical resources of the parents for buying food. Because of the cold weather, parents' resources were devoted primarily to clothing and heating. Munro concludes that malnutrition handicaps the ability of the child to direct his or her attention to educational goals.

Seham (1970) cites data on children entering an urban Head Start center showing that 34 percent had not seen a physician in two years, 75 percent had never seen a dentist, about 14 percent were not born in hospitals, and 50 percent had not been immunized against childhood diseases. Similarly, in Shipman's longitudinal study of 1,800 Head Start children in four communities (ETS 1971), "a higher frequency of health-related problems were found (among these children) than is found with upper socioeconomic groups." There were "more prenatal, birth and postnatal complications, more abnormal findings on the visual and auditory screening tests, higher suggested incidence of neurological problems, below average hemoglobin levels, and fewer immunizations" (p. 35).

Hunter (1970) reinforces these findings by citing results of the 1968 National Immunization survey. Head Start children entering full-year programs had lower rates for all categories of immunization than the children of the national survey sample. For example, only 8.6 percent of children one to four years of age had no DPT immunization, as compared to somewhere between 13 and 25 percent of children entering Head Start. For measles, the contrast was even greater--the percentages without immunization were about 30 percent for the general population and 60 percent for the entering Head Start population.

Mason (1973) provides additional evidence of potential health problems. In a sample of 295 black Head Start children in Harrison County, Mississippi, 84 had positive sickle cell trait tests.

---

[7] See, for example, Zee, P., Walters, T. and Mitchell, C. "Nutrition and Poverty in Preschool Children," J.A.M.A. 213:739, 1970; and Birch, H.G. "Malnutrition, Learning, and Intelligence," American Journal of Public Health 62:773, 1972.

Generally, the existing research supports the premise that Head Start-eligible children are in need of health services. The Head Start health component attends to these needs by promoting the health of children to enhance their opportunities for physical, cognitive and emotional growth.

THE HEAD START HEALTH DELIVERY SYSTEM

Head Start uses a two-stage approach to the delivery of health services. All children are supposed to receive medical and dental screenings and examinations. Those that require treatment or follow-up are referred to appropriate health professionals. Referrals are made to adequate community health resources when available. Otherwise, Head Start programs obtain the qualified personnel through volunteer and/or contractual arrangements to provide services directly. Services may be paid for by Head Start, by Medicaid for eligible children, or by parents, depending upon local circumstances.

Local Head Start programs are required to establish Health Services Advisory Committees to advise in the planning and operations of the health component. The Committee may include local physicians, health department officials, dentists, psychiatrists, nurses, psychologists, optometrists, nutritionists, medical technicians, speech and hearing professionals, hospital administrators, and parents. These committees establish the standards for service and referral. They also assist in preventing duplication of community services.

A study by Abt Associates, a national survey of Head Start graduates and their peers (1978), examined the availability and use of medical resources in communities. Head Start teachers and parents from 99 randomly selected centers were interviewed, and a comparison group of families involved in other preschool programs was studied. Results showed that a high proportion of health and other community services were available and widely used by Head Start families.

Available health resources included comprehensive medical centers, medical laboratories, nutrition services, public health clinics, speech therapy clinics, and social services (e.g., psychological services, work training). These services were readily available in most communities. Fifty-two percent of the centers had access to a comprehensive health center and 98 percent of the centers had access to nutrition centers. The availability of social services was similarly high with 67 percent of centers having access to a guidance clinic and 96 percent to a psychological services clinic. Further, when facilities were available they were widely used (89 to 100 percent). There was evidence that Head Start parents were more likely to use health resources than non-Head Start parents. Seventy-nine percent of Head Start parents reported that the program helped them arrange for medical care compared to only 41 percent of parents from other preschool programs.

The Performance Standards provide for the following health services for all children.

a. Medical and dental history
b. Health screenings, including:
   - Growth assessment
   - Vision testing
   - Hearing testing
   - Hemoglobin or hematocrit determination
   - Other selected screenings as for lead poisoning and sickle cell anemia
   - Assessment of current immunization status
   - Speech problem identification
   - Identification of the special needs of handicapped children
c. Medical examinations
d. Completion of all recommended immunizations
e. Dental examinations
f. Establishment of medical and dental records
g. Health education for parents and children
h. Mental health services

When screenings indicate the need for treatment, follow-up services are provided. The program is to assist the parent in obtaining treatment and review health records to assure that treatment is taking place.[8]

According to the PIR (Program Information Report), Head Start performs well on providing medical and dental screening. Nationwide in 1983, 87.4 percent of all Head Start children were medically screened, and 82.1 percent completed dental exams. Of those medically screened, 25.4 percent needed medical treatment, and of those, 97.1 percent received treatment. Of the children receiving dental exams, 40.5 percent needed treatment and 95.4 percent of them received it. Further, 93.5 percent of all Head Starters had completed all needed immunizations (Maxima, 1983).

Head Start has played an important role in mobilizing health resources for children. For example, Head Start participants' utilization of Early Periodic Screening, Diagnosis and Treatment (EPSDT) program services has increased. This has been facilitated through the development of formal collaborative agreements at the state level between Head Start programs and EPSDT. In 1982, 17 states had operational EPSDT/Head Start agreements and three additional states were finalizing agreements. In addition, there have been efforts at the local level to increase the use of EPSDT services by Medicaid-eligible Head Start participants (Westinghouse Health Systems, 1982).

The delivery of service is affected by the existence and stability of health services in the community. Where services are scarce, the programs must assume increased responsibility requiring a greater investment on the part of management. Where resources are more abundant and stable, parents assume more of the responsibility and the program's level of involvement is reduced.

---

[8] Head Start Performance Standards, op. cit., pp. 16-37.

THE ABT ASSOCIATES STUDY OF THE EFFECT OF HEAD START HEALTH SERVICES

The most extensive evaluation to date of Head Start health services was recently completed by Abt Associates (1984). Herein we summarize the study's overall design and research questions, as well as its major findings. In subsequent sections of this chapter, we refer to specific findings from the Abt study that relate to the various research questions under review.

The Abt evaluation addressed the following questions:

- What is the health status of children prior to their entry into Head Start?
- What health services did Head Start children receive?
- How did Head Start health services received compare between Head Start and non-Head Start children?
- How did Head Start health services impact the health status of Head Start children?

To examine these issues, four Head Start programs dispersed across the country were studied. Site selection considered the nature of the local health care system, geographic location, and community size. The areas chosen, Greene and Humphreys Counties, Mississippi, St. Clair County, Missouri, Maricopa County, Arizona, and Mingo County, West Virginia are all classified by the U.S. Public Health Service as "underserved" in terms of medical and dental services. Within each of these areas, 200 to 300 children who were eligible to enter Head Start were randomly assigned to enter Head Start or were assigned to a non-Head Start control group. A pretest health evaluation was given to half of the children in each group and a posttest evaluation was given to all children after the Head Start group had completed a full year in the program. Only half the children were given the pretest so that improvements in health status resulting from the pretest evaluation could be determined and isolated from health changes due to Head Start.

The health screen included examination of 10 health areas mandated by the Head Start Performance Standards: pediatric health, health history, dental, anthropometric, nutrition, biochemical, developmental, speech and language, vision, and hearing. At pretest, 53 percent of the children were found to have one or more health problems. While high, this prevalence of health problems was lower than that found in earlier national studies of equivalent populations. Incidence and severity of problems varied by site and was highest in the Mississippi counties where access to medical care was most difficult. Table 5-1 shows the most prevalent health problems.

Table 5-1

Most Prevalent Health Problems Among Head Start-Eligible Children (data from Abt, 1984)

Problem	Frequency (percent) N = 376
Allergies	7.7
Asthma	5.9
Dermatological	4.8
Enuresis	6.8
Otitis media (Serious)	9.0
Surgical problems	3.5

In addition to these problems, Head Start-eligible children also suffered from poor dental care, speech and language problems, and developmental delays beyond what has been found in surveys of equivalent populations. The pretest also found that children were below national norms for height, suffered from iron and calcium deficiencies, and had a relatively high incidence of vision problems.

Abt found that Head Start provided comprehensive health evaluations to children in the program and that these children received considerably more of those screenings than non-Head Start children. Head Start provided medical, dental, hearing, vision, speech, developmental, and nutritional evaluations, although not all sites provided screening in all of these areas. Table 5-2 compares the services received by both groups of children.

Table 5-2

Health Evaluations Received by Head Start and Non-Head Start Children (data from Abt, 1984)

Service	Percent Receiving Evaluation	
	Head Start (N=449)	Non-Head Start (N=387)
Medical Examination	86	68
Dental Examination	80	27
Speech Examination	31	15
Vision Screen	53	10
Hearing Screen	61.2	NA*
Developmental Examination	40.7 (N=334)	NA*

*No data was available for these services from the non-Head Start group.

In addition, the nutrient intake of Head Start children was significantly greater than the nutrient intake of children not in the program. Head Start families served meals at home that had higher nutrient quality. Children who attended Head Start also were served meals and snacks there that were more nutritious than ones available to nonparticipants.

The next section presents detailed findings from the Abt study on the impact of Head Start services on child health. In general, when health services were delivered to Head Start children, their health improved. This was especially true for pediatric and dental problems. Improvements were also observed in developmental, speech and language, and vision problems.

The Abt study provides an analysis of the Head Start service delivery system and the community context for health service delivery. Abt found a relatively high degree of variability in the management of the health services component in the communities studied, each reflecting local conditions and program priorities.

Follow-up on treatment is an important activity. Abt researchers found that if programs did not follow up with parents to determine if treatment had occurred, the system broke down and children did not receive needed care. When parents were integrated into this phase of the health care system and monitoring was provided, needed treatments were obtained.

Direct funding for health services can be provided by Head Start, but only as a last resort. Many Head Start children are eligible for Medicaid. This is the preferred payment alternative, but, according to the Abt study, these funds are difficult to obtain in some locations. Staff effort expended in obtaining alternate funding sources is extensive in some programs.

The Abt study concludes that for health services to be delivered effectively, Head Start programs must play a central role in managing the delivery of these services. They must involve parents but remain involved to assure that children receive needed care. Where an adequate community health system exists, programs can rely on it. However, where resources are few and unstable, Head Start programs may need to develop their own health service delivery systems.

Abt concludes that Head Start is effective in serving the health care needs of children in the program. The positive effects are particularly evident in locations where access to services is difficult and where medical care in the community is generally poor. In such communities, Head Start has virtually sole responsibility for providing health services to children.

HEAD START'S IMPACT ON CHILDREN'S HEALTH

The Head Start Performance Standards require that programs provide comprehensive health services to children. As discussed earlier, Head Start is providing health screening and treatment programs to most Head Start children. But are these services making children healthier? The following sections address this question by reviewing studies that include child outcome data on the general health, dental health, and mental health of all Head Start children and on the handicapped children enrolled in Head Start.

General Health of Head Start Children

Head Start programs promote the general physical well-being and nutritional status of children through the coordination of services and provision of healthy meals and snacks to children. Although few studies include data on child health outcomes, the studies that are available generally indicate that Head Start has had a positive impact. Four aspects of general health are examined: general physical health, anthropometry, motor skills, and nutrient intake.

General Physical Health

A few studies examined the overall health status of Head Start children. The Abt study (1984) found that, when the mandated health services were delivered to Head Start children, their health status improved substantially. For example, Head Start children who had pediatric problems at the pretest were less likely to have the same problems remaining at posttest than non-Head Start children (43 percent vs. 66 percent, respectively).

Ross (1972) examined the effects of the Head Start program on 108 Head Start graduates in grades K-4, their older (non-Head Start) siblings and the overall school district sample of children in Seattle, Washington. Using a rating scale, teachers evaluated the Head Start graduates, compared to their siblings and other classmates, on several development aspects including their general physical health and motor development. Teachers rated former Head Start students higher than their siblings on physical and motor development; the difference between the two groups was statistically significant ($p < .01$). There was no significant difference between the Head Start children and the more advantaged general student population on this measure. The author concludes that the Head Start program has helped children become "more like" other more advantaged children of the same age on all measures, including physical and motor development.

Geesaman (1971) compared the health status of 31 previous Head Start children (12 boys and 19 girls) with the health status of 31 non-Head Start children from the same socioeconomic level in Bloomington, Indiana. The control group of non-Head Start children was matched with the Head Start group on the basis of sex, age and mother's or father's occupation. All the children were 6-, 7- and 8-year-olds currently enrolled in elementary school. Data on the health status was extracted from the school health records. The authors conclude that generally there was little difference in the health status of the two groups.

Anthropometry

Several researchers examined the influence of Head Start health services on the height and weight of Head Start children. The Abt study (1984) revealed no significant differences across all study sites in anthropometric measures as a result of Head Start health services. The measures examined include height, weight and weight for height. However, within sites, there were significant effects. Because these effects were often in opposite directions, the authors conclude that, across all ages, Head Start does not have a consistent impact on children's growth.

Hambidge (1976) evaluated the zinc nutritional status of Denver Head Start children selected on the basis of impaired growth rate. He found significantly lower zinc in the blood of 74 Head Start children than children in a middle-class comparison group. A zinc supplement was provided for half of the Head Start children and a placebo for the other half. After six months, comparison of the boys revealed a significantly greater daily height increment for the zinc supplemented children compared with the controls. These differences, however, were no longer present after 9 or 12 months.

Cook (1976b) examined the nutritional status of a group of preschool children in Maine. One outcome measured was the effect of the Head Start program on anthropometric measures of 18 Head Start children as compared to 17 university nursery school children. Measurements taken in the fall and spring revealed no significant differences between the groups during either season. The measurements fell within acceptable standard levels at both time periods.

Motor Skills

In the Abt (1984) study, four aspects of the children's developmental status were examined: the children's performance on the Motor Scale of McCarthy Scales of Children's Abilities; the child's willingness to cooperate with the developmental tester; the parent's report of whether the child behaved in ways which are associated with being overly withdrawn; and the parent's report of whether the child behaved in ways associated with being overly aggressive. Pretest results indicated that 66 percent of the Head Start children had some evidence of a development problem on one or more of the four indices. Over half of the children fell below the 20th percentile score on the McCarthy Motor Scale. The researchers found that Head Start had a significant impact on children's motor coordination and development. The most notable effect was revealed in the decrease from pretest to posttest of the proportion of children who scored below the 20th percentile on the McCarthy Motor Scale. A decrease occurred in both the Head Start and non-Head Start group, but was considerably larger in the Head Start group (19 percent) than the non-Head Start group (4 percent). The impact of Head Start on children's motor coordination and development was strongest in the site which operated a full time, five-day program.

An examination of short-term effects of Head Start Planned Variation conducted by Huron (1973) included a focus on motor inhibition. Data were collected on over two thousand children during the fall of 1970 and spring of 1971. The study reported that of the observed gain of .36 standard deviation from pretest to posttest, it is estimated that the Head Start experience accounts for about 70 percent of the gain (.26) and maturation accounts for the rest (.10). This represents a significant increase from pre to posttest at nearly triple the natural growth rate for all Head Start children. However, there were no differences between Planned Variation and regular Head Start children.

Adkins and O'Mally (Hawaii University, 1971) developed music and physical development curricula to stimulate physical development of Head Start children in two classes in Hawaii. Using the Bayley Scale as a measure, no significant differences were found from pre to posttest. The authors concluded that since children were near norms at pretest, there was no delayed motor development present to be remediated.

Bergel (1977) conducted an investigation to determine the factor structure of motor abilities of 4- and 5-year-old Head Start and non-Head Start children in the San Francisco Bay Area and to compare the factor structure of the Head Start and control groups. The analyses of 35 test items revealed a well-defined factor structure of motor abilities and anthropometric measurements in both groups of children at both age levels. The comparable common factors isolated in all four groups were: body fat; body size; power and gross motor coordination; upper extremity and shoulder girdle strength; fine motor coordination; and balance and coordination. The basic components of the motor abilities and perceptual motor functions were quite similar across the four groups of children.

The AMS (1978b) study found that, at posttest, mentally retarded children in Head Start performed significantly better than similar children in non-Head Start programs on motor skills. These differences were not found for children with other types of handicapping conditions.

The Nutritional Health of Head Start Children

Nutrition is an important component of the Head Start program. Centers provide meals, snacks and nutrition education to children and parents. The Head Start Performance Standards identify five major objectives of the nutrition part of the health services component of the Head Start program: (1) provide food to help meet the child's nutritional needs; (2) provide an environment to promote the feeding situation as an opportunity for learning; (3) help staff, child and family to understand the relationship of nutrition to health and to apply this knowledge to develop sound food habits; (4) demonstrate the interrelationships of nutrition and other activities of the Head Start program and overall contribution in developmental goals; and (5) involve all staff, parents and other community agencies as appropriate to meet the child's nutritional needs.

A few studies have examined the effect of Head Start on the nutrient intake of children. The Abt (1984) study assessed Head Start nutritional services as well as the impact on children. Researchers found that in the sites examined, Head Start programs' meals and snacks provided close to or over 50 percent of the recommended amounts of all nutrients. Overall, the evaluation revealed positive impacts of Head Start's nutrition services on children.

Analyses of nutrient intake at posttest indicated many significant differences between the groups of children who received Head Start meals and snacks and those who did not. Head Start children took in significantly more calories, protein and almost all of the other nutrients studied compared to the non-Head Start children. Head Start children consumed significantly more calcium, magnesium, phosphorus, riboflavin, and vitamins A and B at posttest compared to pretest. These nutrient intake gains were not evident in non-Head Start children.

Further, Head Start also affected families' participation in food assistance programs; families in Head Start were more likely than non-Head Start families to begin receiving food assistance using WIC or WIC plus food stamps (57 percent vs. 33 percent). This may have been a factor in home diets; the findings indicate that the nutrient density of diets provided to Head Start children at home was superior to that of non-Head Start children for vitamins A and C and cholesterol.

The study also examined biomedical indices, another indicator of the possible effect of nutrition services. Findings reveal that Head Start children had higher blood beta-carotene levels, a measure of Vitamin A intake, than the non-Head Start children. In the total posttest sample, 14 percent of the Head Start children had low levels of beta-carotene to 24 percent of the non-Head Start children. There were no significant differences between the Head Start and non-Head Start children in iron status and serum cholesterol. However, there was some evidence of Head Start impacts on children who had abnormal hematocrit or hemoglobin concentration values (which reflect the level of key nutrients, such as iron) at pretest. Significantly fewer children screened by Head Start had abnormal hematocrit or hemoglobin concentrations at posttest (7 percent) compared to non-Head Start children or Head Start children who had not received a hematologic screening (18 percent).

Cook (1976a), in a study described earlier, examined the nutrient intake of a small group of Head Start and non-Head Start preschool children in Maine. Biomedical measurements were examined to assess the effect of Head Start nutritional services. Compared with middle-class children at the beginning of the school year, the Head Start children had significantly lower hemoglobin and hematocrit levels in their blood, indicating iron-deficient diets. However, by spring the differences between the two groups had diminished. The author concludes that the improvement in biochemical measurements may have resulted from food consumed at Head Start and from more adequate consumption at home due to nutritional instruction for parents at the Head Start center.

Cook also examined food intake of the children and their mothers to determine the adequacy of calcium and ascorbic acid in the diets. In the fall, Head Start children consumed significantly less calcium and ascorbic acid than the comparison group children. In the spring, there was a notable improvement in the calcium and ascorbic acid levels, especially for children who attended Head Start regularly. The author concludes that the Head Start program had a positive effect on the nutrient and energy intake of preschool children.

The dietary intake of the mothers was observed to determine whether meal planning changed during the year their children attended Head Start. The mothers' diets were generally considered inadequate in nutrient consumption and dietary patterns did not appear to change in the home.

Gietzen and Vermeersch (1980) compared a group of children who had attended Head Start to two other disadvantaged groups of children (Title I and those receiving Free School lunches) as well as to a group of higher SES children who had attended a private preschool. Records of 1,100 students were screened to select children to compare the two programs that included a nutrition component (Head Start and Free School Lunch) to the two without (Title I and private preschool). The private preschool children outperformed all the disadvantaged groups on the Comprehensive Test of Basic Skills, on measures of placement in academic tracks in special education, and retention in grade. However, Head Start children had significantly fewer absences due to illness than their Title I or Free Lunch peers. Further, Head Start boys were taller than Free Lunch boys through age 14, and outperformed them on a six-minute jog-walk test. Some of these differences may have resulted from Head Start health services as well as from Head Start nutrition services.

As part of a larger national study, Owen (1970) examined the nutrient intake of 43 five-year-old Apache children, 36 of whom were currently enrolled in Head Start. The Head Start snacks and meals accounted for one third of their total food intake. The author compared biomedical indices and dietary intakes of the five-year-olds to younger Apache children. They concluded that some of the age related changes in the intake and biomedical indices may have occurred because of an improvement in diets as a result of Head Start participation. For example, preschool age children had a higher percentage of the required amounts of hemoglobin, Vitamin A and ascorbic acid. However, the authors note that the Apache children generally were well below acceptable values in all biomedical and nutrient indices.

In an evaluation of Head Start's "Healthy That's Me" curriculum demonstration, Zamoff et al. (Urban Institute, 1973) reported a number of differences between experimental and comparison groups, based on parental reports of child health knowledge and behavior. However, the implementation of the program was so inconsistent (e.g., 60 percent of the parents in the experimental group never received instructional materials) that few valid conclusions can be drawn about the curriculum's effect on nutrition.

Cowell (1983) conducted a study to determine whether children in three Head Start programs in compliance with the Nutrition Performance Standard had greater gains in height and weight than children in three severely noncompliant programs. Screening data available for 318 four- to five-year-old children prior to validation of the standard showed that the children were substantially below normal for age-adjusted height (M = 40.02) but close to normal for age-adjusted weight (M = 49.38). The mean age-adjusted height and weight percentile for a normal group of children should be 50.0. At follow-up six months later, increases in both measures were found, but only age-adjusted weight was statistically significant ($p < .01$). Despite these increases, analysis of variance indicated that gains in age-adjusted height and weight were not dependent on the compliance status of the Head Start program.

Dental Health of Head Start Children

Disadvantaged children and families tend to have poorer dental health and dental hygiene practices. To address this problem, Head Start Performance Standards require oral examination of all children and topical fluoride treatment in areas where water is not fluoridated. Children are provided further treatment if necessary and are also instructed in oral self-care procedures. These standards are designed both to improve current dental health and prevent future dental problems.

Few studies have evaluated the effects of Head Start on dental health. Most have merely documented the poor dental health of many children entering the program, underscoring the need for these services. Pugnier (1974) used the simplified Oral Hygiene Index (OHI-S) to examine 1,250 children entering Head Start in 16 sites in Minnesota. An average score of 1.19 on the OHI-S was obtained, indicating "dental attention is urgently needed if loss of teeth is to be avoided" (p. 280). Children entering Head Start had an average of 1.2 decayed teeth and 1.5 filled teeth per child. Forty-three percent of the decayed teeth of these children had not been treated.

Murphy (1974) reported similar findings, concluding "dental care for the Head Start children at the time of the examination was almost non-existent" (p. 34), prior to their entrance into Head Start. The study examined 557 Head Start children and 300 Head Start parents in Mobile, Alabama, Gulfport, Mississippi, and New Orleans, Louisiana. The mean number of decayed teeth of entering Head Start children was lowest (3.6) in Mobile where the water was fluoridated and highest in Gulfport (7.6). Further, in all locations, virtually none of the decayed teeth had been treated. The mean number of filled teeth ranged from 0 to .5. The parents of these children also suffered from poor dental health. Depending on age, anywhere from 16.3 to 30 teeth, on the average, were decayed, missing or filled.

Barton (1975) reports results similar to Murphy in his study in Indiana and presents findings suggestive of the impact of Head Start. The study covers two school years (1971-1973) and includes 908 children between four and five years old enrolled in Head Start. Four hundred and nine children were examined in 1971-1972 and 499 in 1972-1973. A high rate of dental caries among the children entering Head Start was found in both years, although differences were found between children living in fluoridated and nonfluoridated areas. Children living in cities with fluoridated water had an average of 5.44 carious surfaces each while children in cities without fluoridation had an average of 8.08 carious surfaces each.

Whether the children received subsequent treatment depended in part on the role Head Start played in assisting them. In 1972-73, Head Start provided free transportation to the dentist and in that year, 71% of the children needing further treatment received complete restorative services. In contrast, in the previous year parents had to provide their own transportation to the dentist for their children, and 47% received restorative treatment.

Abt Associates (1984) conducted a more thorough evaluation of the effects of Head Start on dental health. They found that children entering Head Start had an average of 4.6 carious surfaces, 0.6 fillings and 0.08 missing teeth. Twenty-five percent of the children urgently needed dental care. The prevalence of dental problems was highest in areas where water was not fluoridated. Eighty percent of the Head Start children received a dental examination and of those having dental problems, 82% were subsequently treated or referred. The degree of service delivery, however, depended on the procedures used for delivery. One site that examined 100% of the children used a mobile dental clinic at the site of the Head Start classroom. Other sites that had fewer dental resources available and had to make special arrangements for examinations screened as few as 65% of the children. The involvement of Head Start in arranging transportation and engaging in parental follow-up appears to facilitate the delivery of health care services.

Children in Head Start were examined again at the end of the school year and compared to children who were not in Head Start. Results indicated that Head Start had a substantial impact on dental health at two sites. Head Start children at these sites had significantly fewer caries at posttest than non-Head Start children. Further, Head Start children generally maintained better dental hygiene and were more likely to brush their teeth daily than non-Head Start children. However, there was no significant effect of Head Start on dental health at the other two sites.

In summary, studies have shown that children entering Head Start suffer from poor dental health. This is particularly true of children from areas without fluoridated water. While only two studies have examined the impact of Head Start on dental health, both suggest a positive influence. The improvement is accomplished by the provision of dental services directly through Head Start or by Head Start providing transportation and thus easier access to dental services.

Head Start and Children's Mental Health

The Performance Standards stipulate that Head Start programs are to include a mental health component. Programs are to have a mental health professional available at least on a consultation basis and are to provide mental health services as needed, as well as programs to train staff and inform parents about child development. Prevention, detection and treatment of psychological developmental problems are to be provided.

There has been virtually no evaluation of the mental health component of Head Start. Our review was unable to uncover any studies that measured the impact of Head Start participation on children's mental health and only one study that described the type of services provided to children (Philadelphia School District, 1980). Thus, little is known about how well Head Start is fulfilling its mandate in this area and this issue needs to be addressed in future evaluation efforts.

Health Effects of Head Start on the Handicapped

Head Start has always promoted enrollment of handicapped children into the program. In 1972, this policy became a legal mandate with passage of P.L. 92-424, which required Head Start to enroll a minimum of 10 percent handicapped children in all programs. Further, ACYF guidelines specified that handicapped children are to be mainstreamed into regular activities and that participation in Head Start should:

- enhance the child's dignity and self-worth;
- improve the child's health and physical abilities;
- enhance mental processes and conceptual and communications skills;
- establish patterns and expectations of success;
- encourage self-confidence, spontaneity, curiosity, and self-discipline; and
- encourage the child and family to relate to each other.

The 1982-83 PIR survey found 12 percent of the children enrolled in Head Start to be classified as handicapped with visual, hearing, and speech impairments being most common (Maxima, 1983).

The first major evaluation of Head Start's impact on the handicapped was conducted by Syracuse University (1974). These researchers conducted site visits to 52 Head Start classes and collected additional data on 36 of these classes from a questionnaire. They found that all programs were complying with the 10 percent handicapped requirement and that 42 of the centers had a greater proportion of handicapped children. However, most of the children classified as handicapped suffered from mild impairments such as speech and developmental disabilities, while severely and profoundly disabled children comprised only a small percentage of the handicapped population.

The study also found that handicapped children were well-integrated into the class. Children with mild handicaps received the same treatment from teachers, used the same class materials and participated in the same activities as the non-handicapped children. Although ACYF recommends individualized service plans for the handicapped, none of the programs had developed such plans for mildly handicapped children. However, individual plans were devised for the more seriously disabled, and these children received more attention from teachers, more encouragement, and greater language interaction.

The most comprehensive study to date of Head Start's service to the handicapped was conducted by Applied Management Sciences (AMS, 1978). Over a two-year period, AMS studied 59 Head Start centers throughout the country where handicapped children were mainstreamed in the program and 46 non-Head Start programs for the handicapped in the same communities. In addition, AMS examined a small number of handicapped children in the same areas who were receiving no services. AMS found that Head Start centers were well-equipped to provide services to handicapped children. Screenings were given in vision, hearing, language and speech, intellectual development, socioemotional development, and physical coordination. More than 50 percent of all children in Head Start received screening in all six of these areas to identify handicaps, and virtually all children were screened in at least two of these domains. However, only 60 percent of the handicapped children had individualized service plans, and classroom and curricula activities were not individually planned. Further, only 20 percent of the Head Start teachers had early childhood or special education training.

As in the Syracuse study, AMS found that most of the handicapped children in Head Start were mildly or moderately handicapped. The levels of handicapped severity are shown in Table 5-3 for both of the cohorts studied.

Table 5-3

Severity of Handicapping Condition of
Head Start Children
(AMS, 1978A; 1978B)

Severity	Year I (N=269)	Year II (N=400)
Mild	27.7%	41.8%
Moderate	41.3%	38.8%
Severe	27.1%	16.1%
Profound	2.6%	3.3%
Other	6.3%	--

AMS criticized the Head Start programs for not engaging in special recruitment efforts to identify eligible handicapped children in the community. Instead, most programs utilized normal enrollment procedures. Other studies have also criticized Head Start programs for these recruitment efforts (Handicapped Services Survey, HEW, 1977; Informatics, 1983; Bodgan, 1976).

AMS evaluated the impact of Head Start by comparing handicapped children mainstreamed in the program with handicapped children in other preschool programs without mainstreaming and handicapped children not enrolled in any preschool. Two basic measures were used to assess Head Start's effects, the Alpern-Boll Developmental Profile and the Prescott-SRI Child Observation System. The Alpern-Boll is parent-administered and measures development in five areas: communication, academic, social, physical, and self-help. The Prescott measures classroom behavior and social interaction and relies on outside observers.

Head Start handicapped children were compared to handicapped children not in preschool on the Alpern-Boll. Head Start's impact depended on the type of handicap. Speech-impaired children in Head Start had significantly greater gains on four of the subscales, physically handicapped Head Start children scored significantly higher on the self-help subscale, and Head Start children who were mentally retarded performed significantly better on the physical subscale. Handicapped children in non-Head Start programs also showed developmental gains relative to unserved handicapped children, but these gains were generally smaller than those of Head Start children.

Head Start and non-Head Start handicapped children showed gains in classroom social behavior as measured by the Prescott-SRI. Head Start children increased in positive child-oriented social interactions and behaviors and non-Head Start children improved in adult-oriented/directed behaviors. Overall, the AMS investigation concluded that early intervention and remedial intervention efforts aimed at preschool handicapped children produce developmental and behavioral gains greater than for handicapped children who are unserved.

Abt Associates (1984) evaluated the impact of Head Start in improving developmental, speech and language, vision, and hearing disorders. Participation in Head Start had a positive impact on three of these disorders. Children who scored below the 20th percentile on the McCarthy Scale of Motor Development at pretest experienced definite gains from participation in the program. At posttest, 19 percent fewer Head Start children scored below the 20th percentile, while only four percent fewer control group children improved above this percentile. Further, fewer Head Start children were likely to have developmental disorders at posttest than control children (55% vs. 45%).

Head Start children were given four language comprehension scales to identify deficiencies. At pretest, 63 percent of the children scored below the norms, indicating a speech or language problem. At posttest, however, only 35 percent of the children were below norms. In addition, at one site where Head Start staff had received special training, the children had fewer speech problems.

Vision deficiencies were common among Head Start children. At pretest, an optometrist administered a battery of measures of visual acuity, and 61 percent of the children failed at least one measure. However, at posttest, fewer Head Start children had vision problems than non-Head Start children. Although this trend was not statistically significant, it was consistently observed across all four test sites.

A hearing evaluation was given to about two-thirds of Head Start children. Audiologists tested for threshold and middle ear impedance. A third of the children failed the test and 14 percent were found to have otitis media. At posttest, there was no difference in the frequency of hearing disorders between Head Start and non-Head Start children.

Head Start appears to be meeting many of its goals for serving the handicapped. Programs have been complying with the requirement to include 10 percent handicapped children, although they appear to be underserving the severely and profoundly handicapped and some recruitment problems have been noted.

Studies have found Head Start centers to be well-equipped to deal with the handicapped. At the same time, there was a need for more teacher training in dealing with these children and greater use of individualized service plans.

Head Start also has a positive effect on the visual, auditory and speech skills of children.

HEAD START'S IMPACT ON HEALTH INSTITUTIONS

The Head Start program provides or arranges for health and nutrition services to benefit Head Start children. However, the Head Start program also benefits Head Start families by enhancing their awareness and use of services. These health education and promotion activities may have a ripple effect -- Head Start's role in coordinating with other agencies has the potential to affect the practices of community health agencies. The potential for community health institutions to change exists because Head Start promotes parental skills in assessing resources and ensuring that a service meets local needs. Thus the Head Start program affects more than the health status of enrolled children--it serves to educate parents and affect the availability and accessibility of health resources in the community. The following sections describe these indirect, albeit significant, effects of Head Start health component activities.

Health Education

Besides directly affecting health care to children by providing services, Head Start seeks to influence the child's future health with educational programs for parents and children. The Performance Standards require operators to include a health education component within the curriculum. The following is required of health education:

(1) Parents are provided with information about all available health resources;

(2) Parents are encouraged to become involved in the health care process;

(3) Staff are taught and parents are provided the opportunity to learn the principles of preventive health, emergency first aid measures, and safety practices;

(4) Health education is integrated into ongoing classroom and other program activities; and

(5) The children are familiarized with all health services they will receive prior to the delivery of those services.

From these standards it is evident that Head Start is expected to involve parents heavily in the health education process. Three of the five standards deal directly with parents, and this reflects the general philosophy of Head Start to encourage parental participation in their children's education.

The two guidelines dealing directly with educating the child provide little guidance to operators as to the nature of health components. Other than familiarizing children with health services, nothing specific is required. Perhaps as a result, there are few Head Start health curricula or evaluations of health education. Hendricks (1982) found only three health education curricula, only one of which, "Healthy, That's Me," had been implemented or evaluated.

Healthy, That's Me is an early health education curriculum evaluated by the Urban Institute (1973). It was designed specifically for use by Head Start. The curriculum teaches basic health and hygiene principles but also attempts to raise the child's self-esteem and foster positive values toward family and community. To evaluate the curriculum, the Urban Institute (1973) compared 11 Head Start centers that used the curriculum with 11 centers that either used other health education materials or no materials. Head Start teacher trainers, directors, teachers, and parents were interviewed at all sites both at the beginning and end of the school year. Parents and teachers were asked to report on improvements in child's health behavior and knowledge.

Results indicated that parents and teachers rated the curriculum favorably and recommended continued and expanded use of it. However, the curriculum had little impact on children. According to parental reports, children in the curriculum group brushed their teeth more regularly than the control group children. In addition, fewer children in the classes using Healthy, That's Me were noted by their teachers as coming to school hungry. There were no differences in other health behaviors or at-home nutrition between children exposed to the curriculum and children not exposed to it.

On indices of health knowledge, teachers reported a 20 percent posttest increase for children exposed to Healthy, That's Me only in awareness of body parts and functions and of the importance of good tooth brushing habits. There was no increased awareness in these topics by control group children. Control group children were reported by their parents as having more negative changes in feelings toward non-Head Start health personnel (e.g. afraid of the doctor, cries or screams at visit to doctor) than children in the health curriculum. However, parents of children in the health curriculum reported no significant change in their perception of their child's understanding of health care needs.

The researchers recommended use of the curriculum in Head Start classes, but only after revisions that included increasing the information and activities, including more visual and sensory aids, and requiring more extensive teacher training.

A second evaluation of a Head Start health curriculum was conducted by Hendricks (1982). She developed a health curriculum now called "Hale and Hardy's Helpful Health Hints" and examined its impact in a Head Start center in Kentucky. This curriculum covers a wide range of topics including community and personal health, growth and development, safety and first aid, and nutrition. Children's health knowledge was measured both before and at the end of the school year and compared with a control group of Head Start children who did not have a health curriculum. Results showed that children who were taught with the "Hale and Hardy" curriculum had a significantly greater gain in health knowledge than control children.

As specified in the Performance Standards, Head Start attempts to involve parents in their child's health education. Several studies have evaluated the success and impact of parent involvement. As part of the Healthy, That's Me curriculum described above, seven handbooks for parents were distributed and their impact assessed with structured parent interviews. More than 60 percent of the parents reported not using or not receiving the handbooks. Nonetheless, parents of children exposed to this curriculum reported they had learned more about childhood health problems since their children enrolled in Head Start. However, they reported no significant changes in the way they cared for their child's health and their awareness of specific first aid treatments did not improve.

The Abt (1984) study assessed the impact of parent involvement in the Head Start program on the nutritional quality of diets provided to Head Start children at home. Using a multiple regression analysis, parental attendance at parent-teacher meetings and parental visits to the Head Start classroom were used as independent variables to predict both nutrient content and nutrient density of diets consumed at home by Head Start children. No differences were found for parent involvement, although it was found that Head Start children consumed more nutritious diets at home than children not in Head Start. This latter finding contradicts most studies, which found no differences in nutrition at home between Head Start and non-Head Start children.

Cook et al. (1976b) examined the impact of nutrition education for Head Start parents on family meal patterns. Head Start mothers attended workshops and were given education in meal planning and dietary habits. Food intake was measured with three day dietary records taken from the mothers both at the beginning and end of Head Start. The same information was taken from a control group of mothers whose children attended a university nursery school. At posttest Head Start mothers had no change in their dietary intake despite their participation in the parent education component of Head Start.

The Philadelphia School District (1977) evaluated the health services of their early childhood education programs including Head Start. Included was an analysis of parent-staff health education programs. Although no data were offered, the report concluded: "Head Start appears to be effective in being the facilitator for health services delivery as well as a fundamental social modifier of familiy attitudes regarding health." Despite this assessment, there appears to be a lack of evidence on Head Start's effectiveness in impacting child health through parent involvement programs. There have been few assessments of this component of the program and further evaluation is clearly warranted.

The Impact on Health Institutions

There are only two studies which examine directly and systematically the impact of Head Start on community institutions; however, the findings in these studies indicate that Head Start efforts are related to changes in community health institutions. These findings are discussed herein since they deal with health institutions. They are repeated in Chapter VII with respect to impact on community institutions.

Kirschner Associates conducted A National Survey of the Impacts of Head Start Centers on Community Institutions (1970) in 1968. The study involved 58 communities which had Head Start programs and seven comparison communities without Head Start programs. A comprehensive instrument was designed to collect information on changes which had occurred in the community and the relationship of the changes to Head Start. Of the 1,496 changes related to Head Start objectives, 26 percent, or 393, involved modification of health services and practices to serve the poor better and more sensitively. The researchers found that health services for low-income families have increased both quantitatively and qualitatively in Head Start communities. Changes in the mental health area were cited most frequently; more than 70 percent of the survey communities experienced positive changes in their mental health institutions. Changes cited included: establishment of new out-patient mental health clinics; improvements in existing public mental health clinics; and rehabilitative facilities for individuals with substance abuse problems.

Respondents identified other changes such as the establishment of health service clinics (Planned Parenthood, dental, prenatal and well-baby clinics) in or proximate to low-income communities; the addition of social workers and home-visiting nurses to the staffs of health care facilities; and desegregation of health care facilities.

Midco Educational Associates (1972) examined the effects of parent participation in 20 Head Start centers which were selected to achieve a balance of parent involvement features, geographic area, ethnic population, rural/urban locale, and grantee versus delegate agency administration. One of the outcomes examined was institutional change which occurred in the community as a result of parent involvement in Head Start. The researchers asked 173 parents at the 20 centers to identify and list institutional changes associated with Head Start.

Of the 132 changes reported by parents which were associated with involvement by Head Start parents, 12 percent were associated with modifications of health institutions. Only institutional changes which met the criteria of involving Head Start parents were reported in the Midco study. The parents interviewed in the Midco study commented on the individual and collective effects of these institutional changes. The parents primarily identified benefits to themselves or their children. For example, in centers where significant changes had occurred in the health institutions, parents were grateful for the better health enjoyed by their children. They were no longer pressured to pay for all medical services received through Head Start. Some parents commented on community-wide impacts, such as improved medical services, increased community interest and awareness of the needs of low-income families, and increased use of agencies and services.

The Midco researchers also found that the number and importance of institutional changes are related to the extent and type of parent involvement in Head Start programs. Where parent participation was high, more institutional changes were reported.

SUMMARY

This chapter presents a comprehensive review of research on the impact of Head Start on the health of children. The provision of comprehensive health services has always been part of the Head Start mandate. The program provides a two stage approach to the delivery of health services. All children receive medical and dental screenings and examinations and those that require additional treatment are referred to appropriate health professionals. Existing community health resources are used if they are adequate and available. Otherwise Head Start obtains qualified personnel and services directly. Depending on local circumstances, services may be volunteered or are paid for by Head Start, parents, or Medicaid for eligible children.

There is clear and convincing evidence that low income, disadvantaged children, such as those eligible for Head Start, are in need of health care services. These children tend to have a higher incidence of physical health problems, poor nutrition, impaired motor development, and poor dental health. Head Start programs are meeting an important need by providing health screenings and treatment which improve child health. Children in the program obtain markedly higher levels of health care than comparable disadvantaged children not in Head Start.

We examined the impact of Head Start on general health and nutrition of Head Start children; dental health of Head Start children; health effects of Head Start on the handicapped; and Head Start children's mental health. Each of these areas is summarized below. Following this discussion is a summary of Head Start's impact on health institutions and health education.

Head Start's Impact on Children's Health

General physical health

Head Start participation appears to produce a significant improvement in physical health. Children in the program have a lower incidence of pediatric problems and a level of general health comparable to more advantaged children. One study, however, found that health status of Head Start children several years after the program did not differ from non-program participants.

Motor skills

Researchers have found that Head Start has a significant impact on children's motor coordination and development. The largest gains have been observed among children with physical handicaps and those suffering from developmental delays.

Anthropometry.

No studies have demonstrated a significant impact of Head Start on anthropometric measures. Head Start does not appear to directly influence height and weight.

Nutrition.

Changes in children's nutrient intake as a result of Head Start participation have been examined by measuring nutrient intake at the home and at the Head Start center, and through biochemical evaluation.

Head Start meals and snacks were found to be highly nutritious, providing as much as 50 percent of the recommended amounts of all nutrients. Children who are at the center regularly consume more calories, protein and essential nutrients than those who attend less often. Head Start children also have been found to have fewer abnormal hematocrits, and higher levels of hemoglobin and beta-carotene than non-Head Start children. Results have been mixed regarding home nutrition of Head Start children. Some studies have found that children in the program have better diets at home than children not in the program. However, other studies have reported no difference between the groups. The key to better home nutrition may be the level of parent involvement.

Dental Health

Few studies have evaluated the effects of Head Start on children's dental health. Rather, most researchers confirmed the poor dental health of children entering the program, underscoring the need for dental health examinations and services. Two studies that examined the impact of Head Start found that participation in Head Start results in better dental health. Head Start children receive better dental care, have fewer caries and better dental hygiene than non-Head Start children. Further, more children receive dental services when Head Start provides transportation services to the dentist.

Head Start and Children's Mental Health

Head Start's impact on the mental health of children has not been evaluated. This is one of the few aspects of the program that has not been studied and little is known about the effectiveness and comprehensiveness of these services.

Health Effects of Head Start on the Handicapped

We also reviewed the research on Head Start's impact on the health of handicapped children. The program is required by law to enroll a minimum of 10 percent handicapped children. Programs were found to be complying with this requirement, although few programs had special recruitment efforts targeted toward the handicapped, and severely handicapped children were underserved. Handicapped children in the program have shown developmental and socio-behavioral gains after being in Head Start that were not observed in handicapped children not in the program.

Head Start has also been effective in identifying handicapping conditions in vision, hearing, development and speech and language through mandatory screenings. Attendance in the program has resulted in improvements in children suffering from disorders in all of these areas except hearing.

Head Start's Impact on Health Institutions

A major objective of the Head Start program is to educate and involve parents in promoting the health and nutrition of their children and families. Unfortunately, few studies examine the extent to which Head Start meets this objective. Based on the limited findings from curriculum and parent involvement assessments, the success of efforts to educate parents about child health is unclear. Further, most education efforts and evaluations focus on parent education programs versus child health education programs.

Head Start's impact on community health institutions has been assessed in two studies. Head Start appears to have a positive effect on these institutions. Modifications made in the health system of Head Start communities is often by program staff or Head Start parents and typically results in better service delivery to the low-income population.

Head Start's health goals mean that the program usually plays a major role in providing and coordinating social and health services in the community. This is especially true in areas where the community is underserved by traditional health care mechanisms. Head Start also provides parents with awareness of community health resources and encourages their involvement in improving existing health institutions.

CONCLUSIONS AND RECOMMENDATIONS

The little research available to assess the effect of Head Start's health services tends to be positive. Head Start appears to be successful in improving the general health of the children it serves, providing needed health care, and improving existing health care within communities. It appears to be less successful in its health education efforts and in involving parents in health education. There are also some indications that it could expand its efforts to assist the handicapped through better recruitment and more specialized teacher training. Although further evaluation is clearly warranted, the available studies suggest Head Start is a positive force in promoting child health.

In addition to further evaluation of the health component, our review suggests the following four areas deserve particular attention:

- Individual service plans. More programs need to provide individual service plans for handicapped children that outline the particular services the child needs and that would be most helpful.

- **Handicapped recruitment. A greater effort is needed to recruit children with more serious handicaps.**

- **Health curricula. There is no successful health curricula widely available for use in Head Start classrooms.**

- **Mental health services. There have been no studies that evaluate the impact of mental health services or their availability and use.**

CHAPTER VI
THE IMPACT OF HEAD START ON FAMILIES

INTRODUCTION

From its inception, Head Start has involved the family of the Head Start child. The "Cooke memo" of 1965 which described the philosophical basis of the program included specific goals relating to families. The memo recommended that "parents participate in Head Start by planning programs, participating in parent education programs, participating in their children's classrooms, serving as a link between children, staff and neighborhood, and filling appropriate job roles in the program" (p.v. O'Keefe, 1978).

Since 1973 the Head Start Performance Standards have affirmed these goals by requiring that parents have the opportunity to be involved as decision-makers, as participants in the classroom, as educators of their own children, and as participants in other self-planned activities. Head Start grantees must have Policy Councils composed of at least 50 percent parents of children in the program. Parents must be able to participate in the classrooms as paid employees, volunteers, or observers. Parent education programs must be developed and must be responsive to parental needs. Finally, staff are required to make two home visits a year to each family to assist parents in working with their children at home. Head Start also is intended to provide a variety of social services to the families of enrolled children.

In 1983 the Reagan Administration reaffirmed the family strengthening goal of Head Start, emphasizing the need to improve the socioeconomic status of families as a means to benefit children.

This chapter examines the available literature on the effect of Head Start on the attitudes, knowledge, abilities, and life status of the families of Head Start children. In this case, family almost always means parents. Research is rare on effects on siblings, grandparents, or other relatives.

This review is limited to research on Head Start. It excludes studies on other early childhood intervention programs and/or experimental Head Start programs unless the study contains comparison data on standard Head Start classes that provide additional information. (Evaluation of the Basic Educational Skills Demonstration programs and of Project Developmental Continuity contain information on Head Start parents that may be of interest to readers, but which are not reported here because they are part of the excluded studies described more fully in Chapter II.[1])

---

[1] NTS Research Corporation. National Evaluation of Head Start Educational Services and Basic Educational Skills Demonstration Programs. Description and Analysis of Program Data: Basic Educational Skills Initiative. Durham, North Carolina, 1980.

High/Scope Educational Research Foundation. A Process Evaluation of Project Developmental Continuity, Interim Report VII, Volume 1: Findings from the PDC Implementation Study. Ypsilanti, Michigan, 1977.

The review focuses primarily on research that examines the effects of Head Start on families, although some descriptive studies are included for background information. Studies which use Head Start parents as convenient samples for studies of low income populations are generally not included unless they provide comparisons to non-Head Start families. Studies were included if they contained outcome or relevant descriptive data. No studies were excluded because of negative findings or poor quality. However, study quality was considered in drawing conclusions about findings.

RESEARCH QUESTIONS

This chapter examines several basic research questions:

1. What are the characteristics of Head Start families?
2. How are parents involved in the program and to what degree do parents participate?
3. What are the effects on children of parent involvement in the program?
4. What are the effects of Head Start on parental attitudes?
5. Have special parent training intervention programs had an effect on parents as educators of their children?
6. How does the Head Start program affect family use of resources, family problems, and health?
7. What impact does the program have on families with special needs children?

The following major sections of this chapter include a description of the methodology used to develop this chapter and review of earlier literature on the effects of Head Start on families. These background sections are followed by seven findings sections, each of which addresses one of the research questions listed above.

METHODOLOGY

Chapter II presents a discussion of the methodology employed in the Head Start Evaluation, Synthesis and Utilization Project. Methodological aspects specific to the review on families are discussed below.

Selection of Studies

For this chapter, the data bank was searched for all research documents which contain information on family impact or parent participation. Approximately 325 documents were generated. Of these, 75 studies were determined to meet the standards for inclusion in this review as described in Chapter II.

Narrative Review and Meta-analysis

The bulk of this chapter is a narrative review of the Head Start literature on families. It follows the guidelines for narrative reviews described in Chapter II. Because so few studies of Head Start's family impact have been undertaken, it is difficult to obtain enough effect sizes on any one research question to conduct a meta-analysis.[2] For this chapter, 70 of the 75 studies are included in the narrative synthesis. However, there were too few studies yielding effect sizes on parent outcomes, child socioemotional outcomes, or parent-child interaction measures to conduct meta-analyses on these issues. The only research question that could be addressed through a meta-analysis was "what is the effect of high parent involvement in Head Start compared to low parent involvement on child cognitive measures?" Five studies were identified which had adequate data and met other criteria for meta-analysis.[3] These studies, the number of effect sizes they yield, and the results of the meta-analysis are presented later in this chapter.

Limitations of the Studies

Although Head Start has a major focus on families, research on Head Start rarely reflects that emphasis. Change in parental attitudes, behavior or status has not been a central concern of Head Start researchers. In many studies parent interviewing or testing is subsidiary to child testing. Instruments and questionnaires are usually investigator-developed and are rarely checked for validity or reliability. For many topics, the data are unstandardized mixtures of approaches, instruments, tests and questions. It is unfortunate that effects on parents have received short shrift from researchers, especially now that the importance of a child's human ecology is drawing increased attention from psychologists and policymakers.[4] The effect of Head Start on parents and through them on their children's learning is often unclear because of the scarce information available.

This review presents the information that is available, but does so with the caveat that the studies often have methodological limitations. These shortcomings will be identified individually, though, only where they call the researcher's conclusions into serious doubt. Findings are described as significant when authors report them at the $p < .05$ level of significance. Results which do not reach this level of significance are generally reported here as showing "no difference."

---

[2] Glass, G., McGaw, B. and Smith, M. L. Meta-Analysis in Social Research. Beverly Hills: Sage Publications, 1981.

[3] Studies had to have quantifiable outcome data and adequate reporting of statistics for the calculation of effect sizes. The interventions must have lasted at least four months and not have been summer Head Start programs. They must have examined regular Head Start programs, not variations, and have at least two subject groups that could be compared.

[4] Bronfenbrenner, U. The Ecology of Human Development, Cambridge: Harvard University Press, 1979.

EARLIER REVIEWS OF THE HEAD START LITERATURE ON FAMILIES

Several previous reviewers have examined the literature on the effects of Head Start on families. Covering many of the same studies included in this paper, these other reviews have generally concluded that the effects tend to be positive, but note that the evidence is often anecdotal and the research scanty.

In 1977, the Social Research Group (SRG) of George Washington University reviewed 17 studies on the effects of Head Start on families and concluded that parental reaction to the Head Start program has been overwhelmingly positive. It has increased parents' communication with their children and increased parental participation in later school programs. SRG cites positive relationships between the amount of parental participation in Head Start and child achievement. The authors find that Head Start parents' attitudes toward education were positively related to the amount that their children gained from the program (Mann et al., 1976).

O'Keefe undertook a complete review of the effects of Head Start and other Administration for Children, Youth, and Families programs on families in 1980. Her report, "What Head Start Means to Families," contains both reviews of research and information garnered from observers of Head Start over the years. In discussing the place parent participation plays in the Head Start program, O'Keefe states:

> It is clear that parent participation and involvement are intended to permeate Head Start and that Head Start is intended to affect, build and strengthen parents (and through them, entire families), as well as children (p. 7).

Among the studies O'Keefe cites is the Westinghouse report in which parents of Head Start children were interviewed and "voiced strong approval of the program and its influence on their children" (p. 17). Forty-three percent of the parents whose children attended full-year programs reported that Head Start had made a positive change in their own lives including making new friends, having more activities away from home, reading more and getting help from a social agency. Parents of former Head Start children who were currently in first grade also indicated greater participation in school than parents whose children were in the second or third grade.

O'Keefe concludes that:

> Although there is still a need to increase the number of parents who actually take advantage of the wide array of opportunities for parental involvement and participation offered by virtually all Head Start programs and although there is still a need for further careful documentation and study of program effects on families (e.g., on family structure, family functioning, siblings, economic status, etc.), there seems to be ample evidence at present to support the view that Head Start is indeed building families (O'Keefe, 1978; p. 26).

WHAT ARE THE CHARACTERISTICS OF HEAD START FAMILIES?

While almost all Head Start families are low-income, they vary among themselves on family structure, ethnicity, size and location. However, some general characteristics can be drawn from the available data (see Table 6-1) in order to provide background information for the subsequent sections on the impact of Head Start on families.

In 1981-82, Head Start was serving 395,800 children and their families in 1,200 full-year programs. Thirty-three percent of the children lived in rural areas, 31 percent in urban areas, and 36 percent in mixed rural/urban areas.[5]

From 1965 until 1970, the Census Bureau collected demographic data on Head Start families. As this is no longer done, the most recent descriptive information comes from two studies which surveyed fairly large samples of Head Start parents. By examining the 1970 Census data, and the two studies just mentioned (Abt Associates (1978) and Stubbs (1980)), some generalizations about Head Start families can be drawn and a few changes seen over time. The Abt Associates (1978) study compared 656 kindergarten students who had attended Head Start to 670 of their non-attending peers. The Stubbs (1980) study surveyed 1,443 parents whose children were currently enrolled in Head Start in order to collect information on parent involvement. The Abt data were collected in November 1976 to February 1977, and the Stubbs data were collected during the 1976-1977 program year. Although the publication dates for the two studies are two years apart, the data collection periods are comparable.

Table 6-1 charts the demographic characteristics of these families by study. Definitions of variables were not always the same across studies, but terms are defined as consistently as possible. Household head is a particularly indefinite descriptor. In the majority of cases, it refers to fathers but for a sizeable proportion of families it means mothers. Similarly, respondents apparently were usually, but not always, mothers so these two groups are reported together.

ACYF data on racial composition of the Head Start population shows 42 percent to be black, 33 percent white, 20 percent Hispanic and 5 percent from other groups such as Native Americans and Asians.[5] Since 1970, the proportion of blacks has declined while the proportion of whites and Hispanics served has increased.

English is by far the most frequently spoken language in the homes of Head Start families, but Spanish or a combination of English and Spanish is spoken by a notable minority. (The only recent data on this come from the Stubbs study which undersampled Hispanics so the figure of 7.7 percent Spanish spoken is probably low.)

---

[5] Project Head Start Statistical Fact Sheet, ACYF, HHS, April, 1983.

Table 6-1

Characteristics of Head Start Families by Study

	Census Bureau 1970 n = 8,493 (parents)	Abt Associates 1978 n = 656 (children)	Stubbs, 1980 n = 1,443 (parents)	Performance Indicator Reports 1982, 1983 n = 395,800 (children)
Race				
Black	51.1%	46.2%	67.8%	42%
White	25.5%	36.9%	18.7%	33%
Hispanic	15.4%	9.6%	11%	20%
Other (mainly Asian, Pacific Islands, Native American or Alaskan Native)	3.7%	7.3%	.9%	5%
Language Spoken in Home				
English	77.7%		89.4%	
Spanish	5.8%		7.7%	
English and Spanish	4.6%		1.1%	
Other or missing	11.9%		1%	
Both Parents Living With Child			# Adults in Home 1.9	
Yes	60.7%			
No	39.3%			
Age of Father or Household Head	21-34 years^a		37.6 years	
Age of Mother or Respondent	21-34 years^a		30.7 years	
Parental Education				
Household Head or Primary Wage Earner (Majority are Fathers)				
Average grade completed	9-11^b	10.2	10.1	-
Percent that attended college	6.8%		8%	

Table 6-1 (continued)

Characteristics of Head Start Families by Study

	Census Bureau 1970 n = 8,493 (parents)	Abt Associates 1978 n = 656 (children)	Stubbs, 1980 n = 1,443 (parents)	Performance Indicator Reports 1982, 1983 n = 395,800 (children)
Mothers or unspecified respondents				
Average grade completed	9-11^{b}		10.7	
Percent that attended college	7.1%		16.4%	
Parental Occupation				
Household Head/Primary Wage Earner/ Father				
Working	86%	53.7%	41.8%^{c}	
Working full-time		48.2%	37.1%	
Receiving public assistance	38.6%	5.3%		
Retired or pension		4%		
Job categories				
White collar	11.4%^{d}	5.2%^{d}	6.5%^{e}	
Blue collar	40.5%	30.7%	21.4%	
Service workers	35.2%	16.2%	13.2%	
Not reported or other	12.8%	47.9%	.1%^{f}	
Mother or Respondent Unspecified				
Working	33.1%	40.3%	30%	
Unemployed or not working		17.6%	68.1%^{g}	
Homemaker	57.4%	42%		
Job Categories				
White collar	9.2%	9%	8.9%^{c}	
Blue collar	8.4%	21%	10.9%	
Service Workers	20.9%	18.6%	9%	
Not reported or other	4.1%	51.4%	.1%	

Table 6-1 (continued)

Characteristics of Head Start Families by Study

	Census Bureau 1970 n = 8,493 (parents)	Abt Associates 1978 n = 656 (children)	Stubbs, 1980 n = 1,443 (parents)	Performance Indicator Reports 1982, 1983 n = 395,800 (children)
Family Income, Average	Less than $4,000[a]	$6,354	$4,000-5,999[1]	
Family Size	6 persons[b]	5.6 persons	5.1 persons	
Number of Children in Home	2 plus Head Start child		3.2 including Head Start child	
Car Ownership or Use of Car	61%		67.6%	
Use of Television	92%			
Use of Telephone	56%			
Receive Newspaper	59%			
Type of Housing				
Public	18%			
Private	61%			
Other or missing	21%			

[a] Mode

[b] Median

[c] N = 603

[d] Of those working

[e] Of total respondents

[f] More than one occupation

[g] Includes homemakers

Family structure data from 1970 show 61 percent of the families to have two parents in the home. Stubbs found an average of 1.9 adults in the home, and Abt found 54% of the families to have two adults. Thus, by a slight majority, Head Start families are more likely than not to have two adults living with the child.

The average age of the father or household head is usually in the mid to late 30's, while mothers are younger, averaging 30 years. As the average age of mothers for live births in the United States in the 1960's and the early 1970's was about 22 years, these mothers of four- and five-year-olds are clearly more mature than averages would predict.[6]

Average family size ranges from 5-6 people, three to four of whom are children.

In 1970, 57 percent of the mothers were homemakers, but in 1978, Abt found this percentage to be only 42, with 40 percent working outside the home. Eighty percent of the household heads in the 1970 Census study were working but only 42 percent were working in the Stubbs study.

Parental education was similar across all studies averaging 10 years for both fathers and mothers. Small proportions had attended or graduated from college; indeed, Stubbs found 16 percent of the mothers had college training.

Data on occupations were calculated differently in the different studies and there were considerable missing data. Proportionately, the fathers or household heads were concentrated in the blue collar and service categories, with the same generally true for mothers. However, Stubbs found as many mothers in white collar jobs as in service jobs, and there were usually more mothers in white collar jobs than fathers in all three studies, reflecting the greater number of mothers in clerical positions.

In 1970 the median income of Head Start families was less than $4,000. Stubbs found a median of only $4,000 to $5,999 for his families in 1976-77. Clearly, these are low-income families by the economic standards of all these dates.

On the consumption side, the Census Bureau gathered some interesting information on the buying habits of these families. In 1970, 61 percent had use of a car. (Stubbs found 68 percent to own cars in 1980.) Ninety-two percent of the families had use of a television, but only 56 percent had use of a telephone. Nearly 60 percent received a newspaper. Sixty-one percent of the families lived in private housing with 18 percent in public housing.

The families surveyed by the Census Bureau and by Abt Associates frequently had participated in the Head Start program previously. The Census found that 44% of the Head Start children's siblings had also attended the program. Abt found that 36% of the Head Starters had one sibling who had also attended and 33% had two or more siblings who had attended.

---

[6] U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1980. Washington, D.C.

One special group of Head Start children was studied by Applied Management Sciences (1978). This study of handicapped preschool children (AMS, 1978) compared children in Head Start to those in non-Head Start programs for the handicapped and to handicapped children not served by any program. There were clear differences in family income among these groups. Both the Head Start and non-served families had considerably lower incomes than families whose children were in non-Head Start programs. The median income for the low-income groups was $6,000 to 6,999 while the median range for other programs was $10,000 to $14,999. Thus, without Head Start, it appears low-income families are unlikely to find programs to serve their handicapped children.

Summary of Demographic Characteristics

Though Head Start families have changed somewhat over the last decade, some generalizations can be drawn about them. There are sizeable proportions of white, black and Hispanic families in Head Start. Families are slightly more likely to have two parents in the home but a large proportion have only one parent at home. Parents tend to have close to but less than a high school diploma and to be employed in blue collar and service jobs. They have low incomes. The later studies show only about half of the household heads and 30 to 40 percent of the mothers to be working. Most have three to four children and two adults in the home. Most live in private housing, have television and access to cars. However, just over 50 percent have access to a telephone or receive newspapers.

The picture is one of poor, fairly stable, moderately educated families with parents in their thirties and with several children. Parents work at blue collar or service jobs but the unemployment rate is very high. They have television but fewer have telephones, use of a car, newspapers, or other luxuries.

While Head Start does not appear to be mainly serving very young families, it does appear to be reaching the targeted low-income families with young children, large proportions of whom are from minority groups. Head Start often serves families over several years, as several siblings pass through the program. Further, it is serving low-income handicapped children, often unserved by other programs for the handicapped.

Attitudes and Behaviors of Head Start Parents

Demographic data provide one profile of Head Start families, but studies of their child-rearing attitudes and home environments humanize the picture.

Weber (1969) compared the home environments of Head Start mothers in Lansing, Michigan, to those of middle-income mothers for four years prior to the child's enrollment in preschool. He found that the Head Start children had been out of their homes for child care more often than the middle-income children. There had been more interaction between the low-income children and outside playmates. The Head Start mothers had endured more disagreement or interference with their own handling of the child than the middle-income mothers. There were no differences between the families on family instability, child assertiveness or number of outside visitors. Weber found that the interference of others with the mother's child-rearing related negatively to the child's performance on the Wechsler Preschool and Primary Scale of Intelligence in Head Start.

In her longitudinal study of over 1,800 Head Start-eligible children and their families, Shipman (ETS, 1973) characterizes the sample of mothers as:

> a lower socioeconomic one, with many of the concomitants of low status; feelings of powerlessness and alienation from society, discrepancies between aspirations and actual expectancies, limited knowledge of community resources, limited home resources, less adult availability to the children, more physical crowding and maternal deprivation, greater reliance on kinship, and substantially fewer fathers present in the home (Educational Testing Service, 1973, p. 58).

She considers a major objective of Head Start to be to help the low-income family resist alienation and the tendency to turn away from the community.

Even if Head Start parents are alienated and isolated, they have good reasons for sending their children to Head Start and these usually center on enhancing the child's personal development. Belton and Goldberg (1966) explored the reasons 50 Head Start parents in Milwaukee enrolled their children. The responses are presented below:

Prepare Child for School	40%
Social Development	20%
Increase Respect for Authority	14%
Child Asked to Go	12%
Increase Self-Responsibility	8%
Occupy Child's Time	4%
Help Child Learn English	2%

Once the children are in the program, researchers can obtain parents' evaluations. These assessments are straightforward, though highly subjective. All studies reviewed for this report found parents to be quite satisfied with Head Start. The Service Delivery Assessment study of 467 Head Start parents, mentioned earlier, found nearly all parents to be greatly satisfied with their children's accomplishments, exceeding their expectations. Parents interviewed for the Abt study endorsed the program as being helpful both to their children and to themselves. Ninety-six percent said that they would send their younger children to it.

Bissell (1971) reports on interviews with parents whose children had been in regular or Head Start Planned Variation classes for a year. Their responses differed somewhat from those reported above by Belton and Goldberg. When asked what difference Head Start had made in their lives that year, about 15 percent responded in terms of its usefulness as a babysitter (except for home-based programs); 11 to 17 percent of the various groups mentioned its effect on their relationships with their own children; sizeable proportions in most models mentioned the relationship with the teacher, and the opportunity for parental learning.

Parents also were asked what they liked best about Head Start. The largest proportion (20 percent) cited their child's relationship to classmates, 14 percent noted the classroom climate and child-teacher relationship, and 14 percent liked the opportunities for learning (SRI, 1971).

Dittman's summary of parental interest in the Head Start experience provides a vivid picture of 20 children and their parents who were involved in Planned Variation in 1970-71 (1972).

> Two strong unifying themes emerge. For one, the parents clearly value this opportunity for their children and care deeply about their futures. Despite their poverty and the burdens they carry, they see that the children get to school. Often as not, the observers comment on how neat and clean they are, with shined shoes, laundered if hand-me-down clothing, hairbows that match, and attention to details. In some instances the parents use harsh and inappropriately severe methods of child rearing, shocking to the reader and probably destructive to the children but they are used by the parents in the hope that the children amount to something (p. 73).

Madison (1976) studied the perceptions and attitudes of 108 Head Start parents in Washington, DC, in regard to the amount of importance they placed on various services provided by the program. Sixty-one percent of the 108 parents reported participating in center activities, and 39 percent participated frequently. The author found little relationship between the importance the parents attached to various services and the degree to which parents participated in the program.

Parents indicated that they placed a high value on the services provided. With 5 being the highest possible rating, 20 services received average ratings of 4.0 and more and 40 items received ratings of more than 3.0. The services evaluated included nutrition (both provision of food and nutrition education), education (the program provided in the classroom), social/psychological (social services for families, social experiences for the children), medical/dental (testing and treatment), and parent involvement activities (education and decision making). The latter services tended to be rated lower than the other services. There was no requirement for the parents to rank the items, so there appears to be a definite skewing of the data toward the high end of the scale.

There were no differences in ratings based on the educational level of the parent, but some differences were found relating to age and employment status.

Webster and Sloan (1981) surveyed 60 parents, 30 of whom had had children enrolled in the University of South Dakota's Head Start program and 30 who had participated in the university nursery school. Mothers evaluated both programs in a brief questionnaire. Nursery school families were of a higher economic group than Head Start families.

Both parent groups provided similar positive responses about the general and educational benefits of the programs to the children. There was no difference on the perceptions of the impact of the program on the family. However, there were significant differences between the groups in their perceptions on improved health, nutrition and parent involvement. Head Start mothers were more likely to feel their child's health had improved through Head Start; that the family was more aware of good nutrition, and that parenting skills had improved as a result of Head Start training.

Fourteen Head Start Evaluation and Research Centers examined the attitudes toward Head Start of parents of 2,076 children in 1967-68 (SDC, 1972). Over the course of the year parents' perceptions of positive benefits of the program to their children increased while their perceptions of benefits to themselves remained the same.

Howe (1970) compared parents' and teachers' perceptions of the social competency of 60 black second graders divided into two matched groups of children who had and had not attended Head Start. Based on an analysis of the Vineland Social Maturity Scale data, he found that there were significant differences between the parents of both groups as well as between the teachers in their perceptions of the children's social competency. Furthermore, he found that achievement test scores, teacher evaluation and the presence of a father image in the home correlated significantly with the perceptions of both groups of parents and teachers. These findings suggested that the social maturity of the children was positively affected by a Head Start experience of at least one year's duration. Parent and teacher interviews revealed that Head Start was favorably viewed in preparing the children for school. However, most parents felt that the program did not help them enough to understand and provide for their children's at-home education.

In an evaluation of four experimental bilingual/bicultural Head Start curricula, Juarez and Associates (1982) found that mothers of the 375 children in the study "expressed highly positive attitudes toward bilingual, bicultural curriculum models, Head Start and bilingual education" (p. iii).

A study in Otsego County, New York, focused on the progress of 120 handicapped children enrolled in Head Start. One hundred percent of the parents felt that Head Start had been a "good growing experience" for their children, 80 percent felt the activities and learning materials, and social contacts with children and adults were equally important aspects of the program. However, 17 percent felt that Head Start could have done more for the child. The parents were also asked what impact Head Start had on the family. Ninety-six percent felt they were understood and supported by the adults who worked with their child; 80 percent felt they learned to understand their child's needs; 65 percent felt they were part of the child's educational program; 40 percent valued the support of one staff member; and 25 percent of the parents of the most severely impaired valued the Child Services Specialist going with them to school administrators and meetings (King-Elkan, 1981).

Clearly, Head Start parents value the Head Start experience. They perceive benefits to their children that are consistent with program goals and they also see benefits to themselves. They evaluate the services provided highly, and show differences in their valuing of services when compared with nursery school mothers, again consistent with program goals.

Parents of bilingual children and parents of handicapped children are highly positive about Head Start's efforts to serve their children.

Differences in Head Start and Non-Head Start Families

When examining descriptions of Head Start families, it is important to ask if families that send their children to Head Start are different from poor families that do not. The argument posed by some researchers is that if Head Start parents are more advantaged, more motivated or have higher aspirations for their children, the parents would have provided better experiences and encouraged the children and they would have outperformed their peers even without the program. A few researchers have addressed this issue.

A study in Hawaii compared 213 families living in areas where there were not enough Head Start classes available. Of these, 107 had a child in the program while 106 did not. Of these 106, 61 children were on the Head Start waiting list (Hawaii University, 1968).

Among Head Start-eligible families, those from the upper levels and lower levels of income were equally likely to have children enrolled in Head Start. There was a greater tendency toward enrollment if the family had another child in Head Start the previous year, had library cards, or had been approached directly by Head Start or other staff. The factor most effective in encouraging enrollment was contact by a local community worker in a program funded by the Office of Economic Opportunity (OEO). There were no significant differences between Head Start and non-Head Start families on educational level of father or mother or on father presence. More Head Start than non-Head Start families were under the care of a private physician (42 percent vs. 34 percent). There were no differences in physical ratings of the two groups' homes. Of the non-Head Start parents, the reasons for not sending their children to Head Start were: 46 percent did not wish to, 38 percent did not know of Head Start, 7 percent forgot to enroll, 9 percent had enrolled but the child dropped out.

Holmes and Holmes (1966) compared four groups of children and their parents in New York City. The first group was composed of Head Start children whose parents had enrolled them on their own initiative (self-referred). The second group had been recruited through staff outreach efforts (sought-after participants); the third group was recruited but did not enroll (sought-after nonparticipants); and the fourth group was a middle-class control group of three-year-olds who were not attending nursery school. On ratings of income, parental presence in the home, sex and ethnicity, there were no significant differences among the three low-income groups. The parents of the self-referred group had a somewhat higher occupational status than the other two groups. The sought-after nonparticipant parents had more downwardly mobile job histories than the self-referred or sought-after participants. The self-referred group was superior on educational aspirations for children, provision of the Head Start child's own bed, provision of five or more books for the child, more realistic evaluation of the amount of education needed for a particular job, provision of more recent health care for the child, and expression of community need for more facilities for children (see Table 6-2). More of the self-referred parents attended parent meetings than did the sought-after participants.

At year-end, self-referred parents were considered by the authors to be more "psychologically sensitive to their children" in terms of assessment of their readiness for school and in terms of their statements of the need for community facilities for children. Children of self-referred parents were still more likely to have their own beds, to eat dinner with their parents, and to have received more toys during the Head Start year than children of sought-after parents. However, by the end of the six-month program, there were few differences between the self-referred and the sought-after participants on aspirations, the child's experience and parent awareness. The authors concluded,

> In summary it seems that by the end of the program, the differences between the self-referred and the sought-after participants were not very great ... Perhaps the self-referred parents are somewhat more sensitive to their children at the end of the program, but in general it can be said that the differences between these parents are minimal. This is a rather encouraging conclusion and supports our overall impression that active recruitment to Head Start should be an important aspect of any program (p. 74).

Besides demonstrating that active recruitment can bring families into the Head Start program who would not otherwise participate, this study implies that Head Start can affect parent attitudes and aspirations for the child, the child's family experiences, and the parent's own awareness of community resources.

Table 6-2

Differences Between Self-Referred and Sought-After Head Start Participant Parents from Holmes and Holmes, 1966

	Pretest		Posttest	
	Self-Referred	Sought-After	Self-Referred	Sought-After
Child's Range of Activities Less Restricted	+			
Time Spent in Activities Other Than TV Watching				
Child Eats More Weekend Meals with Parents	+		+	
Child Has Own Bed	+		+	
Child Has Higher Quality Children's Books	+			
Higher Parental Educational Aspirations for Child	+			
Parents' Realistic Perception of Education Needed for a Job	+			
Parents' Mention of Need for Community Facilities for Children	+		+	

Table 6-2 (continued)

Differences Between Self-Referred and Sought-After Head Start Participant Parents from Holmes and Holmes, 1966

	Pretest		Posttest	
	Self-Referred	Sought-After	Self-Referred	Sought-After
Parental Awareness of Community Center	+			
Recency of Child's Medical Care	+			
More Frequent Attendance at Parent Meetings (Posttest only)			+	
Parental Evaluation of Child's Lack of Readiness for Head Start (Posttest only)			+	
Parent Purchased More Toys for Child During Year (Posttest only)			+	

+ Denotes group that was superior on this measure.

Parental aspirations for their children and their attitudes about other aspects of their lives were studied by Jacobs and Pierce-Jones (Texas University, 1969). They interviewed 108 parents of Head Start children in Austin, Texas, before and after the Head Start year. Three scales were developed for the interview: general optimism, aspiration level for child, and child rearing practices (the latter was deemed not reliable and was not analyzed).

The authors found no difference in general optimism or aspiration level between parents who had had a child in Head Start earlier and those for whom this was the first Head Start experience. First-time Head Start parents did not show significant changes in those attitudes from pre to posttest. There were no more favorable changes on the scales for parents who participated actively in Head Start compared to those who do not participate actively. Also, no relationship was found between parent's change scores and improved performance of children on tests.

Hervey studied the attitudes, expectations, and behavior of parents of Head Start and non-Head Start children who were then in kindergarten in inner-city Detroit (Merrill Palmer, 1968). The parents were upper-lower and lower-lower in socioeconomic status. Fifty-eight mothers and 45 fathers were in the Head Start group and 49 mothers and 28 fathers were in the no-preschool group. Families in both groups had an average of seven members. Parents were interviewed at home.

There were few differences between the Head Start and non-Head Start families on any of the variables. However, in the area of willingness to give financial support for the child's education, Head Start fathers were significantly more likely to feel that all costs for education at the twelfth-grade level should be borne by parents and Head Start mothers were more willing to sacrifice for a child in the second year of college than were non-Head Start mothers. "These two findings were balanced, however, by a substantial number of non-significant findings on the same variables at other educational levels" (p. 9).

Only two of the 16 t-tests on educational aspirations and expectations revealed significant differences. Head Start fathers of upper-lower socioeconomic level had higher expectation for their child's optimal educational attainment and Head Start mothers of the lower-lower socioeconomic status families had higher personal aspirations. Again, these are isolated findings, unconfirmed by other parallel analyses of the same variables.

There were no differences between groups on occupational aspirations, no differences on severity of punishment, importance of obedience, the proportion of time that a child is expected to obey and the reasons why the child should obey.

An exploration of differences in parental aspirations for children of middle- and low-income families was conducted by Rodman and Voydanoff (Merrill-Palmer, 1968) who studied the ranges and levels of educational and occupation apirations of 436 parents for their children. Approximately 50 of these children attended Head Start. The authors found middle- and lower-class aspirations to have the same peaks, but the lower-class aspirations had a broader range, i.e., more jobs and educational levels were acceptable to lower-class parents although they preferred levels as high as middle-class parents did. This finding was based on use of an innovative scaling method (Example: How happy would you be if child left school after X grade?) rather than a one-answer question.

ETS' longitudinal study included a preliminary description of initial differences between the 437 children who later attended Head Start and the 829 who did not in three of the four test sites (1970). The non-Head Start children consisted of two groups: those who attended some other preschool program (n = 88) and those with no known preschool (n = 741). Preliminary analysis showed the following:

> The families in our sample who sent their children to Head Start in the fall after our initial testing were on the average characterized by greater deprivation than those in the other [two] categories. They had fewer material possessions, lived in older, more run-down homes, and under more crowded conditions. Fathers were absent in 50% of the homes. However, [compared to the no-preschool families], the Head Start families expressed somewhat more favorable attitudes toward their area schools, expressed more active responsibility for their child's school performance ... and were more optimistic about their child's success in school. Head Start mothers ... also participated somewhat more [than no preschool mothers] in the community [and more] voted in the last election ... (p. 98).

Mothers of Head Start children did not differ from no-preschool mothers in educational level nor did the percentage of intact homes differ between these two groups. Children enrolled in Head Start were more likely to have older siblings who had been enrolled in the program, however.

In summary, Head Start families are a diverse population. They vary in race, language, location, occupation and educational levels. Some are two parent families; some are single parent. In some families both parents work, in others only one works outside the home. Most have other young children besides the Head Start child and some have other family members in their homes. Because of the eligibility criteria, almost all fall below the poverty level, but evidently only a minority receive welfare. Low-income families with handicapped children appear more likely to be served by Head Start than by other programs for handicapped children.

While Head Start families may be alienated from the community or feel they have little control over their lives, they have specific developmental reasons for enrolling their children in Head Start. Families highly value the services provided by Head Start and appreciate the perceived benefits to their children and to themselves. This positive evaluation includes parents of bilingual and handicapped children who also rate Head Start services highly.

There is some evidence that parents who enroll their children in Head Start on their own initiative have higher educational aspirations for their children and are more child-oriented and more involved in the program than parents who are recruited or who do not enroll their children. Studies differ on the relative status of Head Start families in relation to other low-income families that do not enroll their children in the program. The ETS study suggests that Head Start families live in circumstances characterized by greater deprivation than other poverty-level families. However, the Holmes' study indicates that they may be slightly more advantaged and upwardly mobile.

The Holmes' study also implies that Head Start is capable of increasing families' awareness of community resources and their aspirations for their children, and of improving their children's experiences. Over the program year it can increase the knowledge and improve the attitudes and behaviors of families who are recruited for Head Start participation in relation to families that enroll on their own initiative.

HOW ARE PARENTS INVOLVED IN THE PROGRAM AND TO WHAT DEGREE DO PARENTS PARTICIPATE?

The Head Start Performance Standards require that programs provide opportunities for parent participation in decisionmaking in program planning and operations; participation in classroom and other program activities as paid employees, volunteers or observers; activities for parents which they have helped to develop; and working with their own children in cooperation with Head Start staff.[7] Several studies have explored the extent to which parent involvement opportunities are available and the degree to which parents participate in them.

On the basis of interviews with personnel from 30 randomly selected centers, the National Head Start Parent Involvement study (Stubbs, 1980) reported that a high percentage of the programs were providing opportunities for parents to be involved. Current and former Head Start parents comprised 89 percent of the centers' policymaking councils. Ninety-five percent of the programs budgeted for parent-initiated activities, most of which were Head Start-related. For example, most centers had developed lists of community resources to be used by parents. Eighty-six percent of the teachers reported that they had trained parents in activities which they could perform at home with their children. Many centers had developed special materials for parents relating to handicapped children, health, and nutrition.

---

[7] Head Start Program Performance Standards. U.S. Department of Health, Education, and Welfare, Office of Human Development Services, Administration for Children, Youth and Families, July 1975.

Parents as Volunteers

A number of studies have examined the extent to which parents volunteer in the classroom or in other capacities with the programs.

The 1982-83 PIR survey of all programs reported that for every ten Head Start children enrolled, nearly eight parents provided volunteer services. Volunteers working in the classroom contributed an average of 20 hours per week (not necessarily all volunteers were parents, however) (Maxima, 1983).

Similarly, the Philadelphia schools compared the parent involvement components of their eight early childhood education programs (Philadelphia School District, 1977). Head Start was one of these. An average of 15.6 hours per parent per quarter were volunteered, higher than 6 other programs but lower than the school system's cooperative nursery. The highest proportion of volunteer hours was spent in classroom participation, the lowest in planning and policy development.

In another report from the Philadelphia school system in 1978, 18 Head Start sites reported on parent involvement. Fifty-two percent of volunteer hours were spent in classroom participation, 17 percent in fundraising events, 13 percent in work done at home, 11 percent on class trips and 6 percent in administrative/clerical work (Philadelphia School District, 1978).

In a similar evaluation in the Hartford, Connecticut, public schools, 143 Head Start parents responded to questions about their involvement in the program (Hartford Public Schools, 1974). Eighty-eight percent of the parents had visited a center, 74 percent had worked with teachers, and 36 percent had served on an advisory council. At least 80 percent of the parents evaluated the program as usually having positive effects on their children. Ninety percent of the parents said their child usually wanted to go to school. On the question "gets along better with other children," 84 percent responded "usually." Scores were lower on "doing more things without parental help" (72% said "usually") and understanding numbers (61.3% responded "usually").

The National Head Start Parent Involvement Study (Stubbs, 1980) interviewed staff from 30 randomly selected centers and found that 77 percent of the programs used parent volunteers in the classrooms; 80 percent of the centers used parents to help prepare meals. In a survey of 32 programs involving 656 children (Abt Associates, 1978), two-thirds of the parents interviewed reported helping in classrooms, with 49 percent saying that they had helped at least monthly.

A 1975 report to Congress by the Comptroller General of the United States focused part of its inquiry on parental participation, specifically on the extent to which parents volunteered in the classroom, attended center meetings, and received home visits. Across the six programs studied, most parents had volunteered for at least a few hours each year. On the average, parents volunteered 32 hours a year, but 35 percent of the parents accounted for 71 percent of the total volunteered time.

Parents as Staff

Head Start programs are encouraged to hire parents as paid staff when possible. The 1982-83 PIR survey reveals that 29 percent of the staff in all Head Start programs are, indeed, parents of children in the program (Maxima, 1983).

Similarly, Kirschner Associates' (1978) assessment of the Child Development Associate (CDA) training program found that 50 of 80 project managers reported that 33 percent of their CDA trainees were parents of current or former Head Start children.

Parent Training or Education

The Performance Standards encourage Head Start programs to provide methods and opportunities for parents to enhance their parenting skills. These opportunities may include home visits from staff, parent meetings or workshops, and identification and assistance with use of community resources.

In the Abt study described above (1978), 81 percent of the parents interviewed reported that someone from Head Start had visited their home and 34 percent reported four or more visits during the year. This contrasted with reports of parents with children in other preschools, only 43 percent of whom reported staff visits to their homes. (A reanalysis of these data revealed that Abt had mistakenly classified some children in the "other preschool" group who had actually been in Head Start, thus the number of home visits may have been higher for Head Start and lower for other preschoolers (Cline et al., 1980).

In the Comptroller General study (1975), four grantees kept records on parent attendance at center meetings. Considerable variation was reported, with 46 percent of the parents attending more than 50 percent of the meetings in two programs and only 17 percent of the parents attending more than 50 percent of the meetings in the other two programs.

The average proportion of Head Start parents attending one meeting or activity per quarter was 59 percent in the Philadelphia School District study (1977). Activities included parent workshops, and the most Head Start parent hours spent in workshops were in growth and development and the least in career workshops. The author concludes that the major roles played by parents are those of educator, learner and program supporter.

Programs often provide information and referral to parents regarding community resources. In the Abt study (1978), center staff in 72 to 90 percent of the programs reported parental use of such community social services as mental health clinics, guidance clinics, work and recreation facilities, and family planning clinics. Their use of these services was reportedly the result of Head Start information and referral services. The 1977 Service Delivery Assessment Study of 467 Head Start parents reported similar results. Except in the Southeast, eighty percent of the programs serving parents provided social services including information and referral, counseling, and transportation--services which the parents felt were generally successful. Programs in the South were generally limited to crisis intervention (HEW, 1977).

The benefits of parental involvement may extend beyond the parents themselves. In one study, Kirschner Associates (1970) examined the relationship of parent invovement in Head Start to subsequent community change. The study examined the relationship of parent participation in Head Start centers to Head Start's role in the institutional change process. Kirschner had found evidence of 1,496 changes in health or educational institutions as a result of Head Start involvement in the community. When the level of parent involvement was high in the Head Start center, Head Start was highly involved in 56 percent of the community changes. When parent participation was low, Head Start was highly involved in only 26 percent of the cases.

Increasing Parental Involvement

Over the years, Head Start programs have searched for effective ways of increasing parent involvement, both in terms of the number of parents involved and the intensity of each parent's participation. As a result, several strategies and structural factors have been identified as affecting involvement.

The HEW Service Delivery Assessment study (1977) found that parents do not participate in Head Start because they have younger children at home, are attending school, are working, or have no desire to participate. However, in one state, a $50-per-month stipend was offered to AFDC recipients who volunteered for over 60 hours per month. This increased the average hours of participation per parent.

In a study of bilingual/bicultural curricula, Juarez Associates found parents were most active in preschool activities when the Head Start center was located in their immediate neighborhoods (1982).

Williams (1975) observed that Parent Policy Councils in Indian tribal Head Start programs were not operating as decisionmaking bodies but rather were reacting to decisions. This was so even though parents preferred roles that enabled them to initiate activities rather than passively accepting roles assigned to them. When program staff received training in parent involvement, they became more supportive of parents initiating activities. Thus, effective staff training can increase parent activity in a Head Start program.

In a Huntsville, Alabama, study of parent participation in five Head Start centers, Morris (1974) found that centers with higher participation used a variety of strategies to get parents involved. These included providing refreshments, sending notes, calling parents, and providing transportation, while the centers with lower participation used only one or two of these strategies. In centers where staff valued parental involvement, participation was higher, and centers that favored "active" forms of parental involvement had more participation than centers favoring more passive involvement.

Goldberg (1969) described a parent education program for Head Start mothers in Milwaukee, Wisconsin. The women were primarily Spanish-speaking and many were recent Mexican or Puerto Rican immigrants. The program was a cooperative effort between the school system and the University Extension Service. It offered weekly cooking and shopping skill training to the women. Though no formal evaluation of the program was made, the authors cite the increase in attendance from four to twenty women, and a demand for sewing classes during the following summer as evidence of its success in involving parents.

In summary, the parental involvement component of Head Start appears to be working well. Many and varied opportunities are provided for parents to participate as volunteers, staff, learners and decisionmakers. Thousands of volunteer hours are contributed by parents, especially in classrooms. At the same time, not all parents contribute equally.

Parent involvement can be increased with fairly simple and straightforward methods. These methods, however, require an outreach effort by staff and sensitivity to the interests and needs of the families.

WHAT ARE THE EFFECTS ON CHILDREN OF PARENTAL INVOLVEMENT IN THE PROGRAM

An indirect, but highly important, effect of parental involvement in Head Start is the potential impact on children. Several studies have reported benefits in academic achievement to children with involved parents. Monroe and McDonald (1981), in a follow-up study of 94 children who had attended Head Start in Georgia in the 1960's, compared them to their peers who had not attended. They also examined differences between the children whose parents had been very involved and those who were less involved. Parents of students who graduated from high school more often reported that they had participated in Head Start parent activities or served as volunteers than parents of dropouts. Almost all of the parents located at follow-up had positive comments about Head Start, mainly relating to its ability to prepare the child for success in school.

In a study of 59 children from three upper New York Head Start programs, Weld (1973) found the amount of "family social activeness", part of which was parent involvement in Head Start, to be positively related to child gains on several intelligence measures. She also found attendance, a factor largely controlled by parents, to be related to residual gains on cognitive measures. The family function variables (such as the mother's perception of the value of education, her provision for the child's immaturity and her support for individuality) were more closely related to the child's profit from Head Start than was family socioeconomic status. Weld states that these values are highly consistent with Head Start parent involvement goals.

Kinard (1975) studied 170 pairs of elementary school-age siblings and their parents who had been directly involved in Head Start and Follow Through. He found that the children had higher achievement test scores if their parents had been highly involved in Head Start than children whose parents were indirectly involved. Parent involvement had a greater effect on the scores of second siblings than first children. Both the amount of parent involvement and the duration of the program (attendance in Follow Through) had a significant effect on achievement scores of both siblings.

In contrast, more parental involvement did not produce differences in a program studied by Payne (1971). In this case one group of parents of four-year-old Head Start children received weekly home visits from teachers while another group received only the normal Head Start program. No differences between the two groups were found on a battery of intelligence and achievement tests after a five-month intervention period. It should be noted, however, that this additional "involvement" was not initiated by the parent but by the program, and a number of the parents eventually refused to cooperate.

In a similar experiment, Barber (1971) developed a three-month parent intervention program to accompany a regular Head Start program for 198 children. Paraprofessionals visited the homes biweekly with activities and materials for the parent to use with the child.

The author found that the parent's motivation as rated by the aide was positively related to the child's performance on measures of learning skills. The children showed significant gains at posttest on the PPVT. However, mothers declined significantly from pre to posttest on the Tennessee Self Concept Scale. The author interprets this as evidence that the mothers realized how much knowledge remained to be gained after the few months of intervention.

In a study of 200 Head Start graduates who were in the first grade, Terry (1970) found no significant relationship between the child's reading readiness level and the quantity and quality of past parental involvement in Head Start though there was a trend toward a positive relationship. However, children from the county where Head Start parental involvement was judged to be high scored significantly higher on the readiness test than did former Head Start children from a county where parental involvement was judged to be low.

Meta-analysis of High Versus Low Parent Involvement

The impact of varying degrees of parental involvement in Head Start on child development is the only topic in the family area on which it was possible to conduct a meta-analysis of studies. As described in the Methodology section of this chapter, five of the 75 studies met the criteria for meta-analysis. It should be repeated here that meta-analysis requires a minimum number of comparisons and outcome measures to produce the standard scores called effect sizes. The five studies and the number of effect sizes they yield are presented in Table 6-3.

The Weld (1973) study described earlier could not be included because the measure of parental involvement could not be extracted from the larger "family social activeness" measure. The Terry (1971) study presented data in a form that did not allow effect sizes to be calculated.

TABLE 6-3

Studies Included in Meta-Analysis of High Versus Low Parent Involvement on Child Cognitive Outcomes

Study	# of Effect Sizes
Kinard, Jesse. The Effect of Parental Involvement on Achievement of First and Second Siblings Who Have Attended Head Start and Follow Through Programs	1
Midco Educational Associates. Investigation of the Effects of Parent Participation in Head Start: Final Technical Report	1
Monroe, Eleanor and M. S. McDonald. A Follow-Up Study of the 1966 Head Start Program. Rome City Schools, Rome, Georgia	2
Payne, James. An Investigation of the Effect of a Training Program Designed to Teach Parents How to Teach Their Own Head Start Children	4
Adkins, D. C. and Herman, H. Hawaii Head Start Evaluation - 1968-1969	16

The mean effect size in the analysis of high versus low parent involvement was .238. This means children whose parents were highly involved in Head Start scored .238 of a standard deviation above those children whose parents were low in involvement on the global cognitive measure. In the range of twenty-five percent of a standard deviation is considered "educationally meaningful" in terms of differences between groups, and this value meets that criterion.

Thus, it appears that children whose parents are highly involved perform better on cognitive measures than children whose parents are less involved. There are important caveats to this statement, however. All of these studies compared children of highly involved parents to those of less involved parents at the end of the program. There is no assurance that these children and families were equivalent at the beginning of the program. Further, only four of the effect sizes came from comparison groups in which parent treatment was randomly controlled. For the other 20 effect sizes, parents were grouped according to convenience or they were self-selected into the groups. Further, the coders of these studies for the meta-analysis considered selection factors to be a very plausible threat to internal validity of the study for 20 of 24 effect sizes. This means that because the parents themselves controlled their degree of involvement other factors might be at work which could have yielded these outcomes. That is, the more highly involved parents might have been more interested in their children's performance than the less involved parents and provided more encouragement and educational assistance to the child.

Two of the studies (Adkins and Payne) provided special parent treatments, initiated by the investigators. Thus, for the 20 effect sizes, there was an increased outreach effort to get parents involved. However, these two studies showed lower mean effect sizes than the three studies in which parents participated in regular Head Start parent involvement activities. Further, both Adkins and Payne had difficulties with parents dropping out or not attending the program. Clearly, parental motivation is an important factor at work here.

Because there were only 24 effect sizes and little variation among them on most coded independent variables, no additional comparison could be made with these data.

It appears from both the narrative synthesis and the meta-analysis that children whose parents are highly involved in Head Start perform better than children whose parents are less involved.

As the preceding section indicates, parent involvement can be increased through a variety of techniques. With the finding that this increased involvement relates to better outcomes for children, it appears that Head Start programs should continue to make concerted efforts to involve parents.

WHAT ARE THE EFFECTS OF HEAD START ON PARENTAL ATTITUDES?

The impact of Head Start on parents is a central question of this report and investigators have studied these effects in a variety of domains. Most attention has focused on the impact on parental attitudes toward education, parental attitudes about their lives in the community, and parental attitudes about child-rearing behaviors.

Impact of Head Start on Parental Attitudes toward Education

The Head Start Performance Standards emphasize helping parents provide educational experiences for their children and recognizing the parents' role as the prime educators of their children. Consistent with this emphasis, several investigators have studied the effects of Head Start on changing parental attitudes toward education.

Kearney (1969) studied 160 Head Start parents in York, Pennsylvania, to determine if prior enrollment of their children in Head Start was related to their attitudes toward education. Using the Rundquist and Sletto Scale of Attitudes Toward Education, she tested for differences among four groups of parents: those with no experience with Head Start; those with one child who had been in Head Start; those with two children who had been in Head Start; and those with three children who had been in Head Start. All groups were from the same community and had the same socioeconomic status. Unexpectedly, the no-experience parents had significantly higher scores on attitude toward education than the one-, two-, or three-time Head Start parents. Parents with two experiences had more positive attitudes than parents with one, but they scored no differently from parents with three experiences. Only 5 percent of the parents had ever visited the Head Start classroom, and only 2-1/2 percent had helped in any way with the program.

The author felt that this lack of involvement invalidated all the hypotheses and showed there could be no influence of Head Start on the attitudes of these parents because of the lack of contact.

In the Weld study described earlier, the author examined the relationship of family attitudes and characteristics to the amount the child gained from Head Start. Fifty-nine 4-year-olds and their families from upper New York State were studied. The children were pre and posttested on the Peabody Picture Vocabulary Test, the Birthday Test, the Stanford-Binet, and the Preschool Inventory. Behavior ratings by teachers were also made. Weld found the children's residual gain scores on several cognitive tests related significantly to Head Start attendance, and attendance was significantly related to family "perception of the value of education" from an interview. Gains were also related to "organization in the family" (based on Head Start rating) and "mobility." Parents' perception of the value of education was significantly related to children's gains on cognitive tests and behavior ratings.

Midco Educational Associates (1972) studied parent attitudes in relation to parent involvement in 20 Head Start Centers in 1971-72. They examined centers that had high degrees of parental involvement in learning activities and decisionmaking and those with low amounts of these opportunities. They also studied parents with children in Head Start at that time and parents who had had children in Head Start in the past. There were no differences among groups of parents in their attitudes toward education, though parents in centers with low parent involvement felt less able to influence the schools or the education of their children.

Fourteen Head Start Evaluation and Research Centers examined the attitudes of 879 parents of Head Start children in 1968-69 (System Development Corporation, 1972). The investigators reported that the majority of the parents had generally favorable attitudes toward the value of education and parents gained significantly over the year in their positive attitudes about the value and importance of education. However, gains on educational attitudes were not significant in a similar evaluation in 1967-68. In fact, data from some sites did not reveal gains. For example, Boger (1968), reporting on data from 10 classrooms sampled as part of the 1967-68 national Head Start evaluation, found that the mothers' attitude about the importance of education did not change after a year's experience in the program. This was true across and within the three ethnic groups interviewed.

Shipman's report (ETS, 1976) on the Year 6 data for the longitudinal sample indicated that Head Start attendance per se had little measurable impact on the mothers' attitudes or on the family interaction patterns that were assessed. The possible exceptions were more favorable attitudes toward school and greater knowledge and use of community resources. Most differences found among families, based on preschool attendance, were attributed to the racial/SES disportion of the three groups (Head Start, other preschool, and no known preschool). Significant increases in mean response levels of Head Start mothers on certain variables (e.g., sibling attendance in a preschool program, number of years mother participated in self-improvement classes, and mother's expectations of study child's educational attainment), while suggestive of a possible Head Start effect, may reflect instead general trends noted in other studies and increased optimism among lower SES families.

Erickson, et al. (1969) examined the impact of the Bereiter-Engelmann and the traditional enrichment (Head Start) programs on low-income parents as well as on teachers and children. Parental differences were not discernible except in two areas: academic grades and long-term educational attainment. In each instance, parents of children in the Bereiter-Engelmann program had higher expectations for their children than did parents in the enrichment program, who in turn had higher expectations than parents in the control group. Because of random assignment of the children to the programs, the researchers favor the inference that different outcomes were due to differences in preschool experiences.

In summary, the results of these studies are mixed. SDC found significant gains in parental attitudes toward education over the program year in one year's evaluation, but not in another year. Kearney found no differences among groups of parents who had had children in Head Start for one, two, or three years, implying no difference in attitude after exposure to Head Start. Indeed, a control group rated highest of all groups in this measure. The Midco study found no difference among more or less involved Head Start parents on their attitudes toward education. Weld's study reveals a positive relationship between the parents' perception of the value of education, and the child's gains on behavioral measures and attendance. Shipman's analyses of Year 6 data from the longitudinal study indicated that differences among the samples were attributable more to racial and socioeconomic disproportions among the three groups than to preschool attendance. Erickson found that Head Start parents had higher expectations for their children than did parents of a control group, but that parents of an experimental group had the highest expectations of all.

These studies imply that Head Start has little effect on changing the attitudes of parents toward the value of education. However, children whose parents do value education perform better on cognitive tests and behavior ratings.

Impact of Head Start on Parental Attitudes About Their Lives in the Community

Head Start programs are required to provide experiences and activities which can enhance the development of parents' skills, self-confidence and sense of independence as well as opportunities for continuing education which may lead towards self-enrichment and employment.[8]

In the Shipman study (ETS, 1973) described earlier in this report, Head Start parents were characterized as alienated from their communities, lacking confidence in their abilities to change schools for the better, and having limited knowledge of community resources. A few studies have addressed whether Head Start does improve parental ratings on these factors.

In the Midco study (1972) comparing parents in centers with high and low parental involvement, current Head Start parents showed less alienation if the center ranked high on parent involvement in decisionmaking. On a measure of locus of control, parents in centers low in parent involvement felt they had less control over their environments than parents in centers rated higher. Parents who were more involved in Head Start felt more successful and skilled than lesser involved parents. Highly involved parents showed greater gains in satisfaction. Parents who were highly involved in Head Start were less involved in other community activities while their child was in the program but their community involvement increased after the child left Head Start. Parents who had low levels of involvement in Head Start also had low community involvement levels before and after Head Start.

In a unique experiment in Arkansas, twelve Head Start centers altered their ratios of advantaged and disadvantaged children to determine the effects on children and on parents' attitudes and involvement. Four centers each had ratios of 50 percent disadvantaged to 50 percent advantaged; 75 percent disadvantaged to 25 percent advantaged; and 100 percent disadvantaged (Burton, 1981). Disadvantaged families had incomes of $3600 or less for a family of four.

Effects on both children and parents were measured over a 5-month period. The 75/25 mixture was found to relate to significantly higher increases for disadvantaged and advantaged parents on parent participation as assessed by parents and by staff. Adoption of more democratic family attitudes was evidenced by disadvantaged parents significantly more in the 75/25 centers than in 50/50. Disadvantaged parents in the 75/25 centers showed a somewhat greater increase in self-reliance and a decrease in anti-social tendencies. They also showed significantly greater increases in sense of personal freedom and social skills. Community relations ratings also showed change to be greatest in this group. The authors conclude that:

> the 75/25 center enrollment ratios appeared to yield the greatest number of favorable changes for both disadvantaged and advantaged parents. There is a strong indication that disadvantaged adults are encouraged in participation in center programs when they have advantaged adults to observe as models, if the latter are not in such proportions as to overpower them (p. 13).

---

[8] Head Start Performance Standards, op. cit.

The study by Jacobs and Pierce-Jones (1969) detailed earlier in this chapter adds information to this topic. They found no change in optimism or aspiration level of parents following a child's Head Start experience.

Lamb-Parker (1983) examined the effect of Head Start program participation on 82 mothers in New York City. She compared the mothers' psychological well being at the beginning of the year and 9 months later on a number of measures obtained by questioning the mothers. The mothers who participated most in the program had higher levels of psychological well-being, lower levels of depression, anxiety, and somatic complaints (as sleep disturbances). With more participation, the mothers' faith or trust in other people also increased. Mothers who participated more also scored higher on their satisfaction with life and happiness. The mothers who lived in better housing and who were less depressed participated more. However, level of participation was not related to a number of demographic variables.

It appears that, once again, high levels of parental involvement relate to more positive parental attitudes about their lives and communities, though several studies do not provide the information needed to determine whether this is a causal effect of Head Start. However, the Burton study suggests that parent involvement in a specially designed program with advantaged parents can have positive effects on the attitudes and skills of disadvantaged Head Start parents. Similarly, the Lamb-Parker study indicates that changes do occur as a result of Head Start. Thus, overall, there is evidence that the parent's Head Start experience can change attitudes and skills.

Impact of Head Start on Parental Attitudes And Child-Rearing Behaviors

The Head Start Performance Standards require that programs "provide a planned program of experiences and activities which support and enhance the parental role as the principal influence in their child's education and development" (p. 58). Thus, education for parenting is a strong theme throughout the parental involvement section of the standards and several investigators have explored the efficacy of this mandate. Several studies show that teachers and parents report that parent education efforts do occur in Head Start (Stubbs, 1980; Abt Associates, 1978) and that most parents like and appreciate them. Skinner and Perez-Daple (1976) disseminated a questionnaire to 393 parents of Head Start children in Maryland, Virginia, West Virginia, and Pennsylvania, at the end of the program year. Seventy-two percent of the parents felt it was very important for the parent to learn to teach the child at home and 91 percent felt it was at least moderately important. The parents were generally receptive to Head Start's efforts to accomplish this: 98 percent said they welcomed teachers in their homes, 90 percent thought parents should visit the classroom, and 92 percent wanted teachers to visit their homes. Eighty-eight percent thought Head Start was involving them in the teaching of their child and 76 percent said the teacher had helped them. In this post/test-only design, 96 percent of the parents said they often talk to their children about what they are doing in school. When asked what they do to help the child learn, 53 percent mentioned reading to the child and 34 percent said they teach the alphabet or writing. Because this study only queried parents after the Head Start program, it is not possible to determine if there were changes in these behaviors related to Head Start participation.

Several authors have studied the effects of Head Start on child-rearing or parent-child interaction behavior and generally have found some positive effects. Bissell (1971) reports on the evaluation of the pilot year of the Head Start Planned Variation curriculum study in which four major types of curricular models were compared to "no model" control programs. The total sample included 2,647 children; 1,569 in Planned Variation, and 1,078 in regular Head Start classes. The children were tested at the beginning and end of the year, and their mothers were interviewed and tested as well.

On measures of mother-child interaction from spring to fall using the Hess and Shipman Eight-Block Sort Task,

> maternal verbal communication, maternal regulation, child verbal responsiveness, and child success all increased from fall to spring. ... Mothers of children in model and regular Head Start classes changed about equally in their styles of verbal interaction. Children in model programs had significantly greater increases in success on the sort task than children in "regular" classes (p. 25).

In response to the parent interview question, "What difference has Head Start made in your own life this year?" the report claims that parents in "regular" programs answered in terms of babysitting and day care facilities, but in model classes parents were more likely to emphasize changes in the parent-child relationship and in the child's and the parent's self-development. However, the data themselves (see Table 6-4) are not that clear-cut, with babysitting being an important benefit to over 12 percent of four of five groups.

The Merrill-Palmer study by Hervey described earlier offers comparisons between Head Start and non-Head Start parents. In descriptions of how they would react to situations describing a child's behavior, Head Start mothers were more likely to respond to a child's request and to use reason with the child who would not share than the non-Head Start mothers. There were no differences on five other situations.

On rankings of duties of parents to children, Head Start mothers were less likely than non-Head Start mothers to place emphasis on "watching over" the child. Head Start fathers were more likely to emphasize providing an example for the child and preparing the child to be a good citizen. For other duties the two groups were almost identical. Further, no differences were found in responses on duties of children to parents.

The author concludes that, as there are only these isolated differences, the hypothesis that Head Start influences educational and child-rearing attitudes and behavior is not upheld. She states that "Head Start is making only part of the impact on the children that it could be making" (p. 14).

TABLE 6-4

Responses to Question "What difference has Head Start made in your life this year?"

			Program Model		
Parent Response	**Regular**	**Preacademic**	**Discovery**	**Cognitive Discovery**	**Parent Educator**
Babysitting	15.7%	14.6%	16.8%	12.6%	
Relationship to own child	11.3%	16.9%	15.2%	14.8%	13.9%
Relationship with teachers		14.6%		12.6%	
Opportunity for parent learning		12.4%	11.2%		11.1%
Self-development			11.2%		13.9%
Child self-development and self-concept			10.4%		
Relationship between teacher and child					13.9%

(Blanks indicate a response rate of less than 10 percent.)
(Bissell, p. 29.)

Johnson & Peevers (1979) studied the attitudes and behaviors of Head Start mothers in Butte County, California, in 1977. Demographic data and attitudinal and child-rearing behavioral data were gathered by teacher interviewers. Thirty-nine mothers responded to the questionnaire at the end of the year. Thirty-two mothers were interviewed only at the beginning and left by the end of the year. Thirty-two mothers entered after the initial interview and were interviewed only at the end of the year.

There were no differences between pre and posttest scores in terms of mothers' self-esteem, acceptance of contemporary child-rearing values, acceptance of the conventional social role for women, and autocratic child-rearing values. There was a significant decrease in the frequency of "permissive" behaviors used to control children as reported on the posttest by the group tested twice and this difference was also found between the combined pre and postgroups. There were also significant increases in the amount of "strict behaviors" for the group tested twice.

The authors feel that these results show Head Start's parent involvement strategies are having "a positive effect on the process of interaction between mother and child" (p. 21). This conclusion is acceptable if stricter child-rearing methods are viewed as positive changes.

High/Scope's evaluation of the Home Start and Head Start programs found only a few differences between the two programs in terms of effects on mothers or mother-child interaction (1974). Home Start mothers reported teaching significantly more elementary reading and writing skills to their children than Head Start mothers did. Head Start mothers more often reported they used Head Start as day care (63 percent to 3 percent) but 70 percent of Head Start mothers worked and only 20 percent of Home Start mothers did.

Home Start mothers spent more time involved in their children's activities than control mothers and Home Start children helped more often with household tasks than control children. There were no differences between Home Start and Head Start mothers and children on these measures.

These studies suggest that the regular Head Start parent program has had some positive effects on parental child-rearing behavior. The Bissell Planned Variation study shows positive effects on mother-child interaction, and the Hervey study shows a few positive though scattered effects on educational and child-rearing attitudes and behaviors. The interpretation of the Johnson and Peevers findings are relative. If these mothers were highly disorganized and imposed no structure on their children at the beginning of the program, the change to more restrictive behavior is positive; otherwise it may be viewed as a negative, punitive change.

HAVE SPECIAL PARENT TRAINING INTERVENTION PROGRAMS HAD AN EFFECT ON PARENTS AS EDUCATORS OF THEIR CHILDREN?

Several investigators have added special interventions to Head Start to train parents to be educators of their children.

Boger, Kuipers and Beery (Merrill Palmer, 1969) (also Kuipers, 1970) introduced two types of parent training programs into Head Start classrooms in rural Michigan. Advantaged and disadvantaged children and their parents were mixed in three conditions. One group of parents received a structured-sequential language training program; a second group received a developmental "discovery" program; and a third received a placebo treatment. The mothers were trained for 12 weeks in two-hour sessions and then spent 10 minutes a day working with their child on activities and materials. The authors conclude that "the mothers who participated in the two specific language programs increased their own verbal and linguistic skills as well as the quality of interaction with their children" (p. 107). However, no differences were found between the children except on verbal intelligence on which the language training children scored higher. Despite this finding, there were many tests conducted and the results were often mixed, sometimes favoring one group, sometimes another. In short, these results are not convincing of the superiority of the language curricula.

Payne (1971) also instituted an intervention designed to train parents to teach their own children at home. One group of 69 Head Start parents received the five-month training while a control group received Head Start only. Head Start teachers provided the training, rotating among parents. No differences were found at posttest between the children whose parents received the training and those whose parents did not on a variety of intelligence measures. Payne had considerable problems with parent attendance and completion of the program so part of the potential effect was lost.

In order to test curricula and parent education programs, Adkins and her research group at Hawaii University conducted an extended series of studies. Herman and Adkins (Hawaii University, 1970) paired an experimental language curriculum for Head Start children with two types of parent curricula. One parent program focused on the parent as the teacher of the child, while the other centered on general child development. Overall, they found no significant differences on intelligence and language test scores for those children whose mothers were active participants in either parent program and those whose mothers rarely attended parent meetings. Again, participation was a problem for the investigation.

Another of Adkins' curricula comparison studies included a parent involvement component with teachers meeting weekly with mothers over 21 weeks. These activities were designed to strengthen either the language or mathematics curriculum in which the child was placed. Mothers were pre and posttested on the Maternal Attitude Instrument which measures a mother's attitude toward her role as a teacher, her sensitivity towards her child's feelings, her methods of motivation and reinforcement and her concept of the child's self-image. The mothers increased significantly from pre to posttest. Children who participated in the quantitative curriculum programs and the combined curricula performed better on a variety of measures than children in the language or a motivational curriculum (Hawaii University, 1971b).

Wohlford (1974) compared two parent training methods for Head Start parents in Miami. Four groups of parents were trained in a "sensitivity-discussion" method with discussion on a variety of personal topics. Four other groups participated in sessions designed to help them facilitate the language development of their children. No measures of changes in parental attitudes or behavior were made. However, attendance was best for the language development groups, and the author claimed that six of the eight groups "appeared to sustain a high degree of relevant interest among the parent participants" (p. 243) and he considered the program a success.

This report was the subject of considerable scholarly criticism in subsequent articles by researchers who felt no demonstrated effect had been shown (Wayson, 1974; Phillips, 1974).

Smith (1980) compared two experimental parent education methods for teaching Head Start mothers about child-rearing. One group participated in a group discussion while the other attended lectures and films. After five months, no differences were found on measures of child-rearing attitudes or locus of control.

Mothers of 30 Head Start children in Kansas City were trained in pre-academic skills in a tutorial curriculum consisting of 150 lessons (Juniper Gardens Project, 1968; also Bushell and Jacobson, 1968). Though no objective measures were made, by the end of the year the authors felt that the mothers had become "quite skillful both at tutoring and at managing group activities in academic and non-academic areas" (p. 6). Children gained an average of 24 IQ points on the PPVT.

The "management of group activities" was defined by the authors as training the mothers to require the children to stay in one activity area of the playroom for sixty minutes rather than "bouncing around" the room, spending "only" an average of 23 minutes in an activity area as the children had done prior to the beginning of the training program. Some early childhood educators would object to the appropriateness of this goal for four-year-old children and their mothers.

Vukelich (1974) trained mothers of 10 Head Start children in a language process program designed to enhance the children's verbal abilities. Mothers were taught to interact with the children, assisting them in labeling, identifying, and categorizing objects and concepts. The mothers worked with their children ten minutes a day at home. A second group of Head Start children received spontaneous attention from college students for ten minutes a day, and a third group received Head Start only. After eight weeks, the mother interaction group had gained significantly more than the children in the college student group on the PPVT and three subtests of the ITPA, and scored significantly higher than the Head Start-only children on one subtest of the ITPA.

Highberger and Brooks (1973) compared children in two Head Start centers in East Tennessee. Mothers read to one group of 40 children for 15 minutes a day from books selected and circulated by the investigators and the Head Start parents advisory committee. A second group of children took toys home from a toy library each week. No directions were given to parents about their use. After 17 weeks of intervention, the experimentals scored significantly higher than the controls on the Peabody Picture Vocabulary Test.

Three child and parent training conditions were established in a Pima Indian Head Start program to assist mothers in decreasing the physical and verbal aggression of their children (Texas University, 1969). One group of mothers received group counseling for 90 minutes a week for eight weeks. One group of children was placed in a play therapy situation with life-size Indian dolls three times a week. The third group of children was a control and participated in the regular Head Start program only. On an investigator-developed rating of aggression, there were no differences among the three groups after the eight week period.

Similarly, Zamoff (Urban Institute, 1973), in interviews with 368 Head Start parents, found few significant differences on a variety of health topics between parents from centers where the "Healthy, That's Me" curriculum had been used rather than other health education materials. However, the implementation of the program was so inconsistent (e.g., 60 percent of the parents in the experimental group never received materials) that few valid conclusions about the curriculum's effect can be drawn.

Kowatrakul (Temple University, 1970) provided need achievement training to 47 Head Start children's mothers over four half-day periods. At the end of training, the mothers were interviewed and stated they regarded the sessions as "personally worthwhile" and "useful in helping my child" and they believed that the achievement training helped them in goal-setting for themselves as well as their children. They also said they believed that the achievement training would help their children to succeed better in school.

The results of these special interventions lean heavily toward showing no effects on parents and only a few on children. Two studies show clear positive effects on parents while one shows no effect and the questionable methodology in three others prevent meaningful conclusions. Four show positive effects on children but four show no effect. The Hawaii and Payne studies were included in the meta-analysis presented earlier in this report which showed positive effects from increased parental involvement or training, though these two studies had small and often negative effect sizes. Apparently special parent training programs of the type attempted in these studies can have positive effects on children but self-motivated parent involvement in regular Head Start parent activities relates to stronger effects. Though the effects are seen in children, the intervening effects on parents are not as clearly demonstrated.[9]

Adkins provides some helpful insight on the difficulty of showing discernable effects on parents. Musing on the variability of program effects in her own research (Hawaii University, 1971a) she concludes that the successful operation of parent involvement programs is difficult. Based on her own research experience, but not citing actual data, she speculates that some parents who participate least may in fact be the most upwardly mobile and working part or fulltime. Further she states that it is exceedingly difficult to change long-standing attitudes and habit patterns of adults. To expect these changes is perhaps too much to expect.

---

[9] There have been no systematic research or evaluation studies of the impact on children and their families of the most widespread parent training programs regularly conducted in local Head Start programs (for example, the "Exploring Parenting" and "Getting Involved" series which focus on parent seminars to discuss child development, early childhood education and family strengthening strategies). These parent training programs and related materials were developed for use with low-income and minority parents, were pilot-tested in Head Start and have proven very popular with parents and staff (Ray Collins, 1983, personal communication).

HOW DOES THE HEAD START PROGRAM AFFECT FAMILY USE OF RESOURCES, FAMILY PROBLEMS AND HEALTH?

Head Start aims to assist in the "identification, and use, of family and community resources to meet the basic life support needs of the family" (Performance Standards, p. 60). The effectiveness of Head Start in meeting this goal has been examined by several researchers.

One of the largest evaluations of the effect of Head Start on children and families was the Abt Associates study of Head Start graduates and their peers (1978). The study examined children who had completed Head Start in spring 1976. A random sample of Head Start delegate agencies was drawn, from which 656 Head Start children who had attended 122 centers in 32 sites were selected. They were compared to 670 non-Head Start children of whom 357 had not attended preschool. The children received a variety of tests and teacher ratings. Parents were interviewed. Center staff were also interviewed. Inquiries to the staff about the availability of a variety of services to families revealed a high proportion of centers where services were available and used as indicated in Table 6-5.

When parents were asked if Head Start had helped them with family or personal problems, 33 percent of the parents said Head Start had been of "some" or "a great deal of help." Only 16 percent of other preschool parents responded similarly. Eighty-two percent of Head Start parents said the program gave them the opportunity to get together with other parents at least once a month, while only 48 percent of parents whose children had attended another preschool reported the same.

Similarly, the 1981-1982 PIR found that of the 62 percent of Head Start families identified as needing social services, 96 percent of those received them either through Head Start directly or through referral to other agencies (Maxima, 1983).

The effects of Head Start on the health and health care behavior of families has been of interest to two research groups.

Sharp (University of Washington, 1968) studied the impact of Head Start health care on the families of children enrolled in Head Start in Seattle. Of 140 children, 117 received physical exams, and 113 dental exams.

One hundred and three of the parents reported completing health history forms at the time of the Head Start enrollment. Fifty-five parents reported the teacher or nurse had talked to them about the child's health. Sixty-three of 140 reported that someone from Head Start had helped them with the child's health.

Fifteen of 140 said Head Start gave health assistance concerning family children other than the enrolled child. Two said Head Start gave help with their own problems and two with problems of their spouses.

TABLE 6-5

Availability and Use of Community Services by Head Start Families

Resource	Report by Center on Availability	Report on Use
Mental Health Clinic	90%	87%
Guidance Clinic	67%	90%
Work & Recreation Facility	72%	86%
Family Planning Agency	93%	72%

Parental evaluations of Head Start health personnel by parents were very positive in regard to their helpfulness and availability in assisting with child and family health problems.

After a year in Head Start, 61.4 percent of this sample had contacted a physician recently compared to 40 percent at pretest. Fifty-five percent of the parents had a family dentist compared to 45 percent at the beginning of the year. Other health contacts are noted in Table 6-6.

Forty-three percent of the families reported health assistance from public schools before Head Start. Almost 100 percent reported such assistance at the end.

The Abt study described above also queried parents about their satisfaction with health services. Head Start parents reported that Head Start had helped to arrange for medical care more often than other preschool parents (79 percent to 41 percent). More Head Start parents reported that Head Start had helped their child with hygiene and food habits than did other preschool parents (81 percent to 58 percent).

Clearly, Head Start aids families through the provision of social services, access to information, and assistance with health needs. The only research that shows the effects of some of these services on families is the 1984 Abt Associates study on health services discussed in the preceding chapter.

There are many anecdotes of families who attribute major changes in their lives to Head Start. They point to such things as employment and increased education. However, systematic documentation, much less experimental verification of the claims, is rare. A few studies are presented below which relate some of the changes which families have attributed to Head Start.

In the Abt study described above, families were asked about Head Start's effects on their life situations. Of 656 parents, 8 percent reported that Head Start had helped them find a job, and 9 percent reported that Head Start had helped them further their educations.

The PIR survey reports that 29 percent (or about 22,000) of the approximately 75,800 Head Start paid staff in the nation are parents of current or

TABLE 6-6

Health Care Contacts Before and After Head Start

	Eye Exam	Hearing Exam	DPT Shot	Polio V.	Measles	Small Pox
Prior to Head Start	13.6%	17.9%	80.9%	71.0%	69.8%	50.0%
After Head Start	50.4%	45.0%	92.1%	92.9%	95.7%	91.4%

former Head Start children (Maxima, 1983). Whether these parents would have had other jobs without Head Start is unknown, but the program is clearly having an economic impact on these families.

In a study of 25 parents in a Wisconsin Head Start program, Adams (1976) reported self-perceived changes in the parents' behavior and self-concept. Parents involved in the program reported feelings of increased self-confidence, control over their own lives and community participation. She also found that 11 of the 13 most intensely involved parents in her Wisconsin study had moved from being "on welfare to being off welfare." Parents also reported having increased their education, and having increased opportunities for employment as a result of Head Start participation.

The Service Delivery Assessment study that interviewed 467 parents in 29 sites (HEW, 1977) found:

> The many personal success stories of parents who became actively involved suggest that it is in reality an area of significant program achievement. Parents told of dramatic changes in their lives attributable to Head Start involvement. ... A number of parents who start out as volunteers become aides, cooks, teachers and even program directors (pp. 55-56).

As described earlier, the Midco study (1972a) also provides a series of anecdotes of parents who attribute improved life situations to Head Start. Two of these are presented below.

> In Massachusetts, a wife and mother remarked, "Head Start has changed my life in many positive ways. The process has been slow but is still continuing. Back in 1965, I was hired as a teacher-aide in the Head Start program. ... I am now enrolled in college, working toward a degree in Early Childhood Education. ... My goals and horizons have been broadened, my self-image has improved, self-confidence risen, and, most important, I have a new perspective concerning education as a whole and in participation, as it relates to my family and children (pp. 51-52).

> A Head Start father with severe sight handicap attributes Head Start with helping him move out of a withdrawn shell which he felt he had

> been in all of his life prior to his Head Start experience. ... As a Head Start parent, he became an officer in the center committee. ... 'I had a chance to get a general accounting degree through the Manpower Development Training Act. I learned of this program because I was in Head Start. ... I am now teaching an accounting course in the South Side Center CAP education program' (pp. 54-55).

An intensive family development project was implemented in cooperation with Head Start in Bedford-Stuyvesant, New York (Charms and Butts, 1971). The Family Education Project consisted of courses for the adults and a variety of educational activities for all members of the families. All families had children in Head Start. The program developed from deliberations among the parents, in consultation with the staff. It included courses and biweekly seminars for the adults; activities involving all members of the families; and, special activities for the various age groups within the families--adults, teenagers, and pre-teens. Parents contracted to join the program and agreed to enroll in one or more self-development courses or activities. The courses were job-training programs in secretarial work, barbering, licensed practical nursing, etc. Additional biweekly seminars focused on issues relevant to family life, i.e., consumer education, legal rights, personal health, etc. Family activities included meetings for parents and arts and crafts for children plus entertainment or trips for all family members. Forty-three families from a possible 101 were selected from the Bedford-Stuyvesant Head Start program.

Over the year-long program the majority of the Head Start children rose from 70 percent to 90 percent on the national norms on the ETS Cooperative Preschool Inventory. Teacher ratings on the performance of the Head Start children's siblings showed an increase with more being considered average or above at the end of the school year than at the beginning.

Parents were administered a questionnaire on the value of education, perception of the availability of education, concepts of child rearing and perceptions of the dimensions of childhood education. Shifts in attitudes from pre to posttest were positive but slight.

Staff ratings of positive personal or behavioral change (increased self-confidence, increased family cohesion) were seen in 35 of 59 participants.

Staff reported that 28 parents became employed as a result of the program, five families removed themselves from welfare rolls, six families moved to better housing, and one couple separated. "In some instances, the development of new strengths and insights resulted in some wives demanding a new respect and recognition of their status in the home. In one such case the wife garnered sufficient strength to take recourse in the courts to demand more adequate financial support from her husband" (p. 7).

Head Start's ability to help families raise themselves out of poverty, to obtain jobs, education, and better lives for their children is a central principle of the program's original mandate. The research evidence is scanty and points to rather small percentages of families whose lives are actually changed, though these changes are often dramatic. The stream of positive and inspiring anecdotes indicates to the reader that changes are occurring, but the empirical evidence is largely missing.

Clearly, many of the families who report on the positive effects of Head Start consider it to be what Billingsley[10] terms an opportunity screen—a source of social support which aids a family in moving into a more stable and secure life. Whether Head Start is serving as that opportunity screen for more than a small percentage of the families is unclear. The lack of good research makes it impossible to determine causal effects. More than any other topic, this issue requires additional well-designed, longitudinal research to determine the real effects of Head Start on family life status.

WHAT IMPACT DOES THE PROGRAM HAVE ON FAMILIES WITH SPECIAL NEEDS CHILDREN?

The effect of Head Start on the attitudes of parents toward their children with special needs was explored in six studies.

Coy (1977) examined the effects of integrating fourteen trainable mentally retarded students into regular Head Start programs over an 8-month period in 1976-77. While the author felt the program was successful for the children and for staff attitudes toward integration, parents showed no differences from pre to posttest on their attitudes toward the integration of handicapped children into Head Start. Nor did they show differences on parental perception of child behavior or home behavior.

Kitano (California University, 1969) administered a questionnaire to parents of 37 special needs Head Start students at the beginning and end of the program year. He concluded that parents' perceptions of the roles of professionals in the program became clearer, and that their appreciation of the person's contribution to either the parent or the child was improved. However, the response rate was low and the measures quite subjective.

A large study of the mainstreaming of handicapped children into Head Start was conducted by Applied Management Sciences (AMS) in 1978. AMS compared the effects of Head Start, of non-Head Start programs and of no program on the development of handicapped children and on their families.

On a measure of interaction between parent and child on the High/Scope Home Environment Scale, positive and significant, but small change was found for both the Head Start and non-Head Start families from pre to posttest. As the handicap severity level increased for all types of handicaps, the parent-child interaction score decreased, except in the Head Start group where the decrease was not as great. "In fact, Head Start shows a slight increase at the profound level, possibly reflecting the heavy involvement of parents and the effects of the parent education program" (p. 5-14).

---

[10] Billingsley, A. Black Families in White America. Englewood Cliffs, N.J: Prentice-Hall, 1968.

Almost 99% of the Head Start handicapped children were mainstreamed, while only 15 percent of the 321 non-Head Start children were mainstreamed. Both groups of parents whose children were mainstreamed were positive about mainstreaming, and there was no substantive difference in their attitudes.

Melcer (Michigan State University, 1970) describes a therapeutic program for six Head Start children with a variety of personality, developmental, and learning problems. He notes that after participating in the program (parents attended biweekly for observation, consultation and experience working with the child), all but one were able to change their attitudes and behavior toward their "atypical" child. The author does not present quantitative or even qualitative documentation of this claim, however.

Silverman (1976) investigated the effects of a Head Start social service and parent participation program on 28 families, comparing them to a control group of 72 families who received a more traditional form of casework that was primarily child-focused. All children had serious learning and social adjustment problems and attended a special school.

The typical experimental family scored 37 percent on a 72-point scale for family functioning, a rating considered "marginal." The control families scored 44 at pretest, considered near adequate. The experimental families received about twice as many social work visits as the controls. The author claims the experimental group showed "much more improvement during the study than the controls" (p. 189) based on which families had positive movement. However, the mean gains were not great—5.2 points for the experimental and 3.2 for the controls. No significance levels were given. The author concludes that the change was related to the families' initial level and is not significantly different.

Eighty-three parents of both normal and handicapped children in specialized and mainstream programs, including Head Start, were interviewed to determine their attitudes toward handicapped children and mainstreaming. Parents generally concluded that mainstreaming can be a positive learning experience for all children. However, there were concerns about the effects of mainstreaming on both normal and handicapped children. More parents of nonhandicapped children than handicapped favored mainstreaming. There was little change in attitudes from the first to the second year of the program (Gordon et al., 1978).

Evidence of the effects of Head Start on the families of handicapped children is highly subjective. Research methods in most of the studies provide little basis for conclusions about the effectiveness of Head Start in this context. The AMS study is the best of the lot and shows some evidence of improved parent-child interaction for profoundly handicapped children. The Gordon study points to parental support for mainstreaming handicapped children. In short, this is another case needing additional, high quality research to provide objective answers to family impact questions.

SUMMARY

The thousands of young children who attend Head Start come from families both alike and diverse. Almost all have low incomes. Blacks comprise the largest ethnic group (42%), but whites (33%) and Hispanics (20%) are also well represented. American Indian (4%) and Asian (1%) account for smaller numbers.

The families are slightly more likely to have two parents at home than one. Most parents have just less than a high school education and work in blue collar and service jobs. Unemployment is high among household heads and 30-40 percent of the mothers are working. Most families are large, with three to four children and two adults. Parents appear to average about thirty years of age and often have had other children in Head Start. Though most of the families live in private housing and have access to cars and television, they have few other luxuries.

Parents clearly value the Head Start experience for their children and recognize potential benefits to the children as well as to themselves. They give top ratings to the services received. Parents of bilingual children and of handicapped children are especially positive about the program. For low-income families with handicapped children, Head Start is often the only accessible service.

There is some evidence that parents who enroll their children in Head Start on their own initiative have higher aspirations, are more child oriented and more active in the program than parents who are recruited. However, Head Start apparently can affect some of these attitudes in recruited parents, bringing them closer to self-referred parents by year end.

Head Start provides a variety of opportunities for parent involvement and parents do participate as volunteers, staff, learners and decisionmakers. Thousands of hours of volunteer time are contributed by parents, especially in classrooms, but a core of parents contributes a disproportionate share of the time. Parent involvement can be increased with fairly straightforward methods, but these methods require outreach by staff and sensitivity to the interests and needs of families.

Children of parents who are highly involved in Head Start perform better on cognitive tests at year end than children whose parents were less involved. While this effect may be due to different pre-existing characteristics of the parents, it may also be a true effect of greater parent involvement.

Head Start apparently has little effect on changing the attitudes of parents toward education, though children whose parents do value education perform better on cognitive and behavioral measures. Mothers who actively participate in Head Start are happier and show improved attitudes toward other people, improved psychological well-being, and less anxiety and depression than mothers who participate less.

Research shows small and scattered but usually positive effects of Head Start on parent child-rearing behavior, including effects on mother-child interaction and approaches to discipline. Special intervention efforts added to regular Head Start programs usually produce no effects on parents and few effects on children. Apparently the self-motivated participation in regular Head Start parent involvement activities is more effective than special interventions imposed on parents.

Head Start programs provide families with referrals to community agencies to assist with family needs and families do use these services. About a third of Head Start parents report being helped with family problems by Head Start. Health services for children are particularly widely used.

Many parents have described major life changes (as obtaining employment or education) which they attribute to Head Start participation. However, no controlled studies have been made which examine this phenomenon systematically over time.

Parents with handicapped children are highly supportive of Head Start's efforts to mainstream their children, but little research has been done to examine effects of these programs on parents. One study does show some improvement on parent-child interaction for profoundly handicapped children.

To summarize, Head Start is providing parents with many services and opportunities for involvement. When parents choose to participate there are benefits to themselves and to their children. Sometimes these changes are major and dramatic. However, many of the research studies on this topic are hampered by inadequate designs that make the determination of causal effects impossible.

CONCLUSIONS AND RECOMMENDATIONS

It is interesting to note that some of the most effective programs in changing parental attitudes, behaviors or lives are those which truly adhere to the Head Start philosophical tenets requiring that parents determine the types of programs and activities that are most relevant to them and their children. As Chilman concludes in a paper on programs for disadvantaged parents, parent education programs must give parents the authority to control them in order to be effective; otherwise, they strike at one of the parent's greatest sources of assumed adult competence--parenting.[11]

> Parents, as adults, are at the height of their powers and, at least in terms of cultural expectations, have acquired the capacity to be independent, competent, self-directing individuals. They need to be accorded the status and respect that goes with being adults. Programs that seek to teach them how to be better parents can threaten their sense of adult competency unless those programs are based on and related to the broader concepts of participation (p. 407).

The regular Head Start programs which provide this control and such efforts as the Family Education Program in New York (Charms and Butts, 1971) appear to be the most effective. Parenting interventions which are imposed on Head Start parents often are less effective and poorly attended.

In regard to these outside efforts, especially among several studies in the late 1960's, there is a disquieting strain of poorly conceived interventions interjected into parent programs. Untrained paraprofessionals or graduate students led group sessions where parents were encouraged to expose their feelings and problems, but no provision was made to concretely aid the parents with these problems. In other situations, programs were interjected for a few weeks, then were withdrawn. Even the Family Education Project, designed for three years, was terminated after one year for lack of funds. It is not surprising that parents became disinterested or hostile towards such efforts.

Another problem with many of these studies, which often occurs when middle-class professionals conduct research with low-income children and their families, is the class bias in what is studied, how it is measured, and what is considered positive change, especially in the area of parental values and attitudes. To hang research and intervention studies on the changing of long-standing attitudes based on lifetimes of experience is in itself an unrealistic enterprise. At the same time it imposes a heavy burden on Head Start which is "supposed" to facilitate these difficult changes.

Research on family effects has generally received only secondary attention to that on children and is hampered by measurement problems and, probably, by lack of funding for extensive and longitudinal research. These issues have been argued in the scholarly literature in recent years and perhaps researchers are more sensitive now than they were when much of the work reviewed here was done. Hopefully, with the increased interest in families, there will be new research on Head Start families that will be well-conceived, well-designed and sensitively implemented. The studies included here provide tantalizing clues to the possible benefits but well-designed definitive work is still badly needed.

Hertz (1977) reviewed the effects of a number of federal early childhood programs on children and families. He concludes that most of the evidence is fragmentary, tenuous and addresses only short-term effects. He notes that part of the problem is due to the lack of adequate measurement techniques, the concentration of Head Start research on children rather than adults and the field's lack of understanding of the familial characteristics important to maximal development.

Stearns (1971) also reviewed many of these same studies. She notes the findings from the Kirschner study on the effect of Head Start on communities,

---

[11] Chilman, C. "Parent Education Programs," in Ricciutti, H. and Caldwell, B. (Eds.) Child Development and Social Policy, SRCD Monograph. University of Chicago Press, 1975.

stating there is a "great deal of anecdotal and indirect evidence that a few families at least have been greatly affected by this kind of involvement in Head Start" (p. 92). However, she notes that:

> effects for the worse on poor families stemming from parent participation in the conduct of the programs have been even less systematically studied than positive effects. We do not know whether, in any instances, having responsibility for directing programs has led to more marital instability, less responsibility for care of children, more alienation, disillusion and corruption. Second, we do not know the nature or permanence of changes in parents' attitudes about themselves, of behavior toward their families as a result of their participation as advisors, directors, and committee members, nor do we know how widespread changes are (p. 93).

Datta, McHale, and Mitchell (1973c) reviewed national evaluations of Head Start conducted from 1966-1969 by 14 university-based evaluation and research centers. Over 1,800 children and their families were studied each year. The reviewers report finding considerable heterogeneity of family circumstances and child development. The family was the major determinant of initial performance differences among Head Start children.

> Parents of children who scored highest at initial testing had higher aspirations and expectations for the child's education, were more accessible and read more frequently to him/her, seldom used physical punishment in disciplining the child and generally felt more confident about life. ... Parents' attitudes toward education became more favorable, but parents' attitudes toward society did not change significantly (pp. 3-4).

The studies also found that child and family background characteristics were not related to the size of the gains the children made in Head Start.

Lazar and Chapman (1972) reviewed evaluations of programs designed to develop parenting skills, including Head Start. They note that the reports almost always show the parents have positive reactions to the preschool program and to parent education meetings, but they caution that participating parents differ from nonparticipating ones, that they may not have felt free to express negative sentiments, and that unanimously positive comments are often not reflected in positive changes in the behavior or attitudes of the mother or the children.

On the other hand, they state that:

> There is little doubt that large numbers of Head Start, Parent-Child Center and Follow Through families have gotten immediate relief from life crises through these support services. There is, however, little evidence that these services have positive effects in measurably reducing the families' problems or changing their behavior (p. 119).

Though all of these reviews identify positive effects of Head Start on families, the reviewers consistently express concern that the data are often less than reliable. They call for additional carefully designed studies which give at least as much attention to the parents as to the children.

Chapter VII

THE IMPACT OF HEAD START ON COMMUNITIES

INTRODUCTION

Head Start is a community-based program. It originated within the community action section of the Office of Economic Opportunity and has been operated by local community agencies such as community action agencies, schools and private non-profit organizations. Head Start was designed to place control in the hands of local people in order to be responsive to community needs.

The "Cooke memo" of 1965 states that Head Start programs need to be "tailored to the needs of the individual community and the child."[1] The flexibility and comprehensiveness of the Head Start program were viewed as essential by the early planners to ensure that, unlike other intervention programs, the focus is on the child, not only as an individual, but as part of a family and a community, and that programs and services may vary according to each community's unique characteristics.[2]

The Head Start Performance Standards reinforce these general goals, stressing the importance of community needs and involvement as part of the program's objectives. The goals of the Head Start program are based not only on meeting the multiple needs of children, but also on the concept that "the child's entire family as well as the community must be involved."[3]

In 1983, the Reagan Administration reaffirmed Head Start's role in the community by encouraging Head Start programs to mobilize community health services, to foster the use of parent involvement approaches by the wider community, and to develop effective linkages with community social services to ensure services to children and their families subsequent to their Head Start experience.[4] There is also a focus on expanding Head Start enrollment, and Federal funds have been provided to increase the number of Head

---

[1] "Recommendation for a Head Start Program by Panel of Experts, Chairman, Dr. Robert Cooke; February, 1965." U.S. Department of Health, Education, and Welfare, Office of Child Development, Washington, D.C., 1972.

[2] Zigler, E. and Valentine, J. Project Head Start: A Legacy of the War on Poverty. New York: The Free Press, 1979.

[3] Head Start Program Performance Standards. U.S. Department of Health, Education, and Welfare, Office of Human Development Services, Administration for Children, Youth and Families, July 1975, p. 1.

[4] FY 84 Coordinated Discretionary Funds Program. U.S. Department of Health and Human Services, Office of Human Development Services, Federal Register, October 18, 1983, p. 48385.

Start children through innovative and cost-effective techniques. Some of the approaches cited as examples in a recent program announcement include: collaborative ventures with other community agencies that provide services to preschool children; employment-based Head Start programs which would augment existing day care programs to provide or arrange for comprehensive services in cooperation with businesses and industries; and establishment of Head Start satellites to increase enrollment by linking centers to satellite homes in which small groups of children would be served.[5]

While changing community institutions is not a program mandate, Head Start can affect communities in many ways. It can serve the community by developing and coordinating services. These efforts can benefit both Head Start and non-Head Start families. Similarly, the program advocates that services be made available to the community at large. Head Start enhances community stability by providing employment opportunities as well as by purchasing local goods and services. Finally, Head Start provides opportunities for parents to develop leadership skills which make them more valuable members of the community.

This chapter reviews the available literature on the effect of Head Start on communities. Examined areas of effect include: the community educational system; the delivery of social and health services; the involvement of low income and minority families in community decisionmaking activities; and the community economic base. Factors such as Head Start program characteristics, parent involvement, and community environment are analyzed to determine how they may be related to Head Start's impact on the community.

The review focuses primarily on research that examines the impact of Head Start on communities, although descriptive studies are included for background information. No studies were excluded because of negative findings or poor quality but study quality was considered in drawing conclusions.

RESEARCH QUESTIONS

This chapter addresses four basic research questions relating to Head Start's impact on communities:

1. What are the effects of Head Start on the educational system?
2. What are the effects of Head Start on the delivery of social and health services?

---

[5] Head Start Projects: Possible Availability of Financial Assistance. U.S. Department of Health and Human Services, Office of Human Development Services, Administration for Children, Youth and Families, Federal Register, September 28, 1983, pp. 44440-44444.

3. What are the effects of Head Start on parental participation in the community?

4. What are the effects of Head Start on the economic base of the community?

The major sections of this chapter include a description of the methodology used to develop the chapter, a discussion of Head Start's role in the community, and a review of earlier literature on the effects of Head Start on the community. These background sections are followed by four sections of findings, each of which addresses one of the research questions listed above.

METHODOLOGY

The general methodological approach for the Head Start Evaluation, Synthesis and Utilization Project has been described in Chapter II. Those factors specific to the communities chapter are detailed below.

Selection of Studies

For this report, the Head Start data bank was searched for all research documents which contain information on community impacts or descriptions. (See Appendix B for listing of key words used.) Approximately 41 documents were generated in this procedure. Of these, 13 studies met the standards for inclusion in this review as described in Chapter II. In addition, the data base was reviewed to obtain studies relating to any impact of Head Start on parents which could lead to parental involvement in the community. Also added to the list were studies that include data on Head Start's role in the community. A total of 29 documents, some from review articles, were identified and are included in this analysis. Because of the limited number of studies and the qualitative nature of most of the data, this paper constitutes a traditional literature review and does not incorporate the statistical technique of meta-analysis.[6]

Limitations of the Studies

Although the Head Start program, through its service and advocacy efforts, has the potential for affecting communities, research on Head Start rarely examines this topic. There is only one study, conducted by Kirschner Associates (1970), which systematically investigates Head Start's impact on communities. Other studies examine community effects as a secondary emphasis or in relationship to other effects, such as parent participation in the program and community. Further, the methods used by researchers are usually investigator-developed and are rarely checked for validity and reliability.

---

[6] See pp. II-2 through II-7 for discussion of the conditions for use of meta-analysis.

Consequently, the data reported are generally descriptive and often consist of a series of anecdotes illustrating changes which have occurred. In addition to the overall lack of emphasis on community outcomes, there is little documentation of the change process, that is, how Head Start actually influenced institutions to bring about desired changes. Researchers note Head Start's association with community changes but generally do not describe specific Head Start activities which stimulated change. Thus, the effect of Head Start on communities is often unclear because of the scarce information available.

HEAD START'S ROLE IN THE COMMUNITY

An analysis of the impact of Head Start on communities must consider the target population, the history of Head Start's role in the community, and the process through which changes can be expected to occur.

The Target Population

As indicated in the previous chapter, Head Start serves poor, moderately educated families who have parents in their thirties with several children. Parents work at blue collar or service jobs but the unemployment rate is high.

Clearly, the families that Head Start serves are not those usually in positions of power in a community; more than likely, they are on the fringe of a community's governmental institutions. The historical foundations of Head Start recognize the position of the families it seeks to serve.

The Development of Head Start and Its Role in the Community

The early 1960's marked a period when poverty reemerged as a major social problem. Michael Harrington's book, The Other America, gave wide recognition to the extent of poverty in the United States.[7] The book stimulated research and considerable media attention which further documented the plight of the poor. At the same time, the civil rights movement and advocacy organizations vocalized the need for programs and services which not only met the needs of the poor, but also involved them in designing and implementing programs. The onset of President Johnson's War on Poverty yielded numerous programs which emphasized participation by the poor in community-based programs. The Economic Opportunity Act of 1964 established the Community Action Program (CAP). The funding for Head Start was originally allocated from the CAP authorized funds. Thus, Head Start originated in a new Federal government philosophy that the poor should be involved in planning and implementing programs for themselves. The Office of Economic Opportunity (OEO) programs advocated the concept of "maximum feasible participation"--active participation of the poor in the development and administration of community action programs.

---

[7] Harrington, M. The Other America - Poverty in the United States. New York: Macmillan Co., 1963.

> The concept of community action . . . was essentially a concentrative one. It sought to combine . . . every governmental, public, private, civic, business and labor organization, as well as representatives of racial and ethnic groups. It sought to focus their resources through a single device--a community action agency--on the manifold problems of the poor. The poor themselves were to be involved in the planning and the operation of the agency. They were to benefit from the operations of the agency but were also, in a direct sense of planning, to work for it as well.[8]

Although Head Start began in a milieu which reflected community involvement and action, its specific goals focused on the child and his or her family. Unlike other programs, Head Start did not have as a primary objective changing community institutions. Yet, meeting the needs of Head Start children and families required programmatic coordination with other agencies, so Head Start activities could not help but contribute to community coordination and potential changes in community institutions.

At the same time, Sargent Shriver, Director of OEO, among others, saw Head Start as a program that could help to ameliorate local hostility that had built up about the activities of some community action agencies. In some places, the activities of the community action agencies were viewed as threatening to local governments. This was because the programs were giving political and economic positioning to a formerly silent section of the population: the poor. Shriver believed that Head Start would be viewed in a more favorable light than other community-based programs because of its focus on serving children and families. By association, the community action agencies, many of which would be administering Head Start, would theoretically be viewed more positively also.[9] Thus from the outset, there were expectations regarding the Head Start program.

An environment more conducive to community participation and positive change within community institutions slowly evolved at that time as well. A 1968 study by Daniel Yankelovich, Incorporated, identified more than 40 types of institutional changes which had been attributed to community action programs. Head Start was one of the programs included in the analysis, although outcomes were not differentiated by program.[10] The types of changes identified included increased public school use of teacher aides, expansion and decentralization of public health services, improved enforcement of housing codes, and use of subprofessional aides by welfare services offices. Thus, even though Head Start focused on services for children and their families, there were indications that Head Start would and could result in changes in community institutions to benefit the poor. The combined efforts of the community action programs and the Head Start programs helped to create an environment conducive to continuing change.

---

[8] The Office of Economic Opportunity During the Administration of Lyndon B. Johnson (November 1963-January 1969). Unpublished two-volume document prepared by a White House Task Force, p. 105.

[9] Valentine, J. "Head Start, A Retrospective View: The Founders, The Honorable Sargent Shriver." In Project Head Start: A Legacy of the War on Poverty, by E. Zigler and J. Valentine. New York: The Free Press, 1979, pp. 49-67.

In looking at the development of Head Start, it is worthwhile to examine some of its original strategies that helped to set the stage for a community environment that would better serve the poor. In addition to programmatic interaction with other community organizations, Head Start staff, as representatives of the program and as individuals, have become active in local organizations. Through their involvement, they have acted as advocates for the program and the families and possibly have been in positions to make decisions affecting program participants.

Also, Head Start parents have been encouraged to serve as vehicles for effecting change in their communities. A major objective of the Head Start program was and is to involve the parents--as learners, staff, and decision-makers. The organizational and leadership skills acquired through their experience in Head Start were intended to place parents in a better position to participate meaningfully in community organizations. Further, the Head Start program has actively encouraged parents to become involved in organizations that affect their lives.

Thus, while the context of Head Start's initiation was one of community action, the program was first and foremost designed to serve children and families directly. Yet the strategies inherent in serving children and families included participation and community action that would ultimately contribute to changing institutions. Program initiators had expectations that, when placed in league with other community action programs, Head Start would contribute to a mobilization of resources on behalf of poor and minorities, coordination of services, and an environment for institutional change. In both a past and current view, Head Start's efforts to meet its child- and family-oriented goals often resulted in changes in community institutions; however, the process of change is not always evident nor has it been adequately documented.

The Head Start program, the staff, and the parents all can play a role in influencing the practices and philosophies of community institutions. The process through which change occurs is more difficult to describe than the initiators of change. Studies examining community change describe the process in terms of stages (e.g., Kirschner [1970] and Midco [1972]). The stages reflect preliminary efforts, such as proposing an idea, garnering community support for the idea, acquiring funding and resources, and finally, executing the change.

---

[10] Yankelovich, Incorporated. Detailed Findings of Study to Determine Effects of CAP Program on Selected Communities and their Low-Income Residents. Prepared for Office of Economic Opportunity, March, 1967.

An examination of Head Start's impact on communities requires consideration of two other major factors. The first is to reemphasize that there has been only one systematic investigation of the extent of Head Start's impact and how it actually has changed established institutions. Studies other than Kirschner's report data on a limited topic area (e.g., employment of Head Start parents, use of community resources) and only focus on community involvement or impacts as a secondary emphasis.

The second consideration is the context of Head Start within the community as a whole. Head Start is one of several programs which strive to serve children and their families. As an individual program, its potential for achieving major changes in some communities, especially large urban communities, may be limited. For example, in a large metropolitan area Head Start may not effect much change, that is, it may not improve significantly the overall economic base, nor change the area school system. On the other hand, the effect of a Head Start program in a small community may be considerable. In rural or isolated communities, Head Start may even be the focal point for coordinating comprehensive service delivery for low-income and minority families.

Thus, depending on the size of the community, changes due to Head Start may or may not be great or far-reaching; and indications of progress are measured by each individual and institution affected by Head Start's actions.

EARLIER REVIEWS OF THE HEAD START LITERATURE ON COMMUNITIES

The paucity of studies on Head Start's impact on the community is reflected in the limited number of reviews on the topic. The major point of reference and the basis of many of the reviewers' conclusions is the Kirschner study, A National Survey of the Impacts of Head Start Centers on Community Institutions.

The following sections review the Kirschner study in some detail and then summarize several reviews of literature on Head Start and communities. All of the reviews have the same conclusion: that Head Start has had positive effects on communities. But the reviews note that the evidence is often anecdotal.

The Kirschner Study of the Impact of Head Start on Communities

Kirschner Associates conducted A National Survey of the Impacts of Head Start Centers on Community Institutions in 1968. The study involved 58 communities which had Head Start programs and seven comparison communities without Head Start programs. An instrument was designed to collect information on changes which had occurred in the community and the relationship of the changes to Head Start. Respondents interviewed included those who were most knowledgeable about health and education institutions because preliminary research indicated that Head Start impacts would most likely occur in these areas. Those interviewed included Board of Education presidents; school district officials, principals of poverty area elementary schools; directors and representatives of public health, medical, and dental associations; community action agency directors; and Head Start grantees and delegate program directors.

Overall, the researchers identified many changes in the communities with Head Start programs and few changes in the comparison communities. A total of 1,496 changes related to Head Start goals were reported in the Head Start communities. Respondents indicated that the changes were directly or indirectly affected by Head Start activities or philosophy. Most of the changes related to the health or educational institutions, as illustrated in Table 7-1. In over 50 percent of the communities, more than 25 changes had occurred.

Table 7-1

Number of Institutional Changes in
Each of Four Categories

Category of Institutional Change	Frequency	Percent of Total
Increased involvement of the poor with institutions, particularly at decision-making levels and in decision-making capacities	305	20.3
Greater employment of local persons in paraprofessional occupations	51	3.4
Greater educational emphasis on the particular needs of the poor and of minorities	747	50.0
Modification of health services and practices to serve the poor better and more sensitively	393	26.3
Totals	1496	100.0

In the second phase of the study, Kirschner researchers studied in depth Head Start's involvement in the changes. In the 47 changes examined in depth (in 42 communities), Head Start was involved in 44, or 94 percent. Head Start's role in the change process was examined in terms of seven stages; in over half of the cases, Head Start was involved in three or more stages. The stages are:

- Background--an environment that facilitates change is stimulated or created;
- Idea-proposal--the idea for change is proposed;
- Support for change--support or advocacy for change is demonstrated;
- Authorization--official authorization occurs;
- Resource-fund provision--the necessary funds and other resources are acquired;
- Execution--change is enacted; and
- Support during execution--cooperation or support is given during primary enactment.

Head Start was involved most often in these stages: background (79% of the cases studied), idea-proposal (34%), support for adoption of change (68%), and support during change execution (72%). Table 7-2 presents the participation of Head Start at various stages and Table 7-3 provides examples of Head Start's involvement at each stage.

Table 7-2

Head Start Participation at Each of Seven Stages of the Change Process

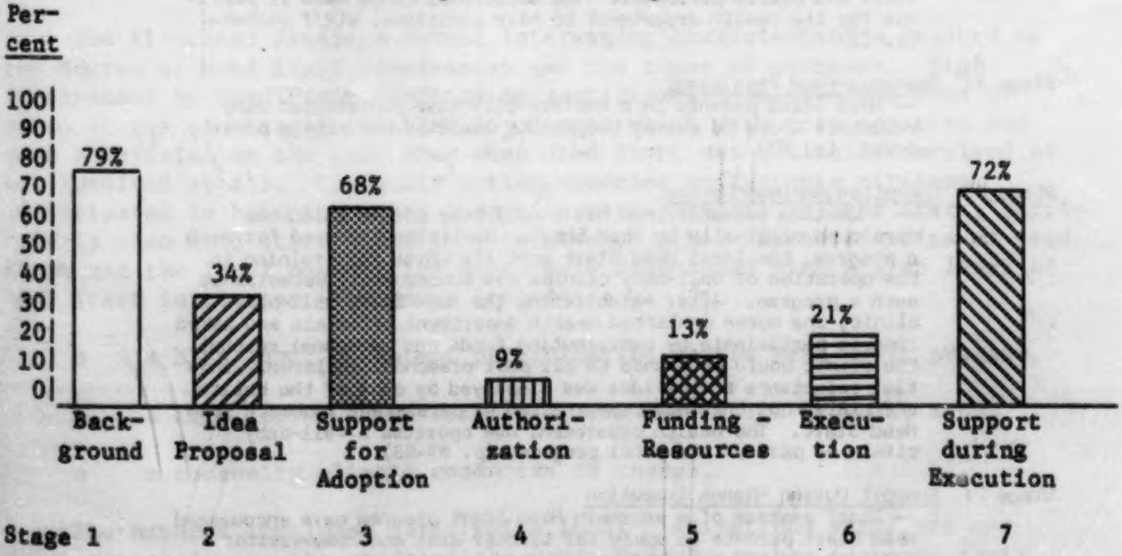


Table 7-3

Examples of Head Start's Role in the Process of Change

Stage 1: Background Factor

-- The school system began to concern itself with malnutrition of the poor children--a rather universal condition among the Head Start children that comes to light during their physical examinations. School officials' awareness of this problem led them to apply for funds to implement hot meal and snack programs in the schools. (p. 11)

Stage 2: Idea-Proposal

-- A school system has altered its traditional policy of educator to include that of health-care provider as well. The idea for a health-care facility was generated by a Head Start nurse who realized the need for such a program after examining the Head Start enrollees, most of whom exhibited symptoms of chronic disease and malnutrition.... The nurse presented these factors to public health and school officials and requested their help in finding a solution to the problem. (p. 91)

Stage 3: Support for Change Adoption

-- A midwestern Head Start staff helped solicit donations for a new eye clinic and eye glass bank. Since the clinic's inception, Head Start has referred many children with vision problems. (p. 92)

Stage 4: Authorization

-- In a small southern town, the health department requested that it be allowed to administer the medical component of Head Start. The stated purposes behind this request were that it would enable the health department to centralize all records on the children and to have more contact with the parents. Although originally reluctant to approve the measure, OEO regional officials authorized it after much negotiation and discussion with local Head Start and health personnel. The additional funds made it possible for the health department to hire additional staff members. (p. 12)

Stage 5: Resource-Fund Provision

-- Head Start parents in a western city have contributed many volunteer hours to survey the health needs of the city's poverty areas. (p. 87)

Stage 6: Execution-Implementation

-- A western community now has a well-baby clinic which was developed originally by Head Start. Realizing the need for such a program, the local Head Start sent its nurse for training in the operation of well-baby clinics and subsequently established such a program. After establishing the Head Start well-baby clinic, the nurse contacted health department officials and asked them to participate by contributing funds and personnel so that the clinic could be opened to all poor preschool children. Initial reluctance to the idea was displayed by some of the health officials, but this was counteracted by persistent requests from Head Start. The health department now operates a well-baby clinic as part of its total program. (p. 87-88)

Stage 7: Support During Change Execution

-- Staff members of a southern Head Start program have encouraged Head Start parents to apply for teacher aide and home-visitor positions in the public school system. (p. 99)

The researchers analyzed in depth those stages in which the program was associated most frequently--background, support for change, and cooperation during change execution. Head Start programs' involvement in the background phase of change, providing the community climate for change, was directed toward increasing community awareness of a problem and stimulating support for its solution. In 82 percent of the cases, Head Start accomplished this objective by serving as an example through its own efforts. For example, Head Start program efforts to improve medical care for the poor stimulated awareness of a problem by the local health system which then established a similar effort to resolve the problem. In over half the cases, Head Start created a "psychological climate" for change by intentionally arousing community concern over a particular issue, for example, the problem of discrimination in the schools.

Head Start involvement in the support stages both initially and after execution included different strategies. In most of the cases (88%), Head Start was actively rather than passively involved, using direct methods to demonstrate support for adopting and executing a change. Efforts included offering services to promote the change, formal advocacy efforts, and direct attempts to influence the organization to adopt or implement a change. A less direct method, influencing private citizens, parents, and private groups to advocate change, was used by Head Start in 50 percent of the cases to support implementation of a change. For example, Head Start staff urged parents and other community residents to take advantage of new services, such as a well-baby clinic, or new opportunities, such as new paraprofessional positions in the public schools. The authors concluded that Head Start generally has been an active participant in encouraging the process of institutional change.

The Kirschner findings reveal interesting characteristics related to the degree of Head Start involvement and the types of outcomes. High involvement by Head Start (defined by participation in at least four of seven stages of change) resulted in changes which were more positive and more beneficial to the poor than when Head Start was minimally involved or not involved at all. Community action agencies and private citizens participated in bringing about change in ways parallel to Head Start, particularly when Head Start was highly involved. Other characteristics of Head Start and the local communities which were associated with a high level of Head Start involvement in change include:

- a high level of parent participation in the Head Start program,
- a high degree of visibility of the Head Start program, and
- a community climate conducive to change.

The authors concluded that, while local institutions still are not fully responsive to the needs of the poor, Head Start has improved their responsiveness by stimulating educational and health institutional changes.

Although the Kirschner study represents a major contribution to Head Start research, there are several limitations to the study design. The authors acknowledged the limited focus on primary education and health institutional changes; the study was not designed to determine all the impacts of Head Start. In addition, the questionnaires were designed to elicit more changes in the educational area than other areas, thus the proportions of types of institutional change reflect the questionnaire design as much as the communities' experience. The limited analysis of comparison communities leaves the reader questioning what communities are like without Head Start. Finally, as the authors noted, the findings suggest a relationship between Head Start and institutional changes, but the changes cannot be attributed directly to Head Start.

In 1976, the Social Research Group (SRG) of George Washington University reviewed three studies on the impact of Head Start on the community: Kirschner (1970), Costello (1970),[11] and Midco (1972) (Mann et al., 1976). Overall, the authors found that Head Start has had a positive impact on the community. Head Start plays a role in influencing changes in community institutions, such as the health and educational systems. Further, parent participation, critical to the program philosophy, is shown to relate to increased involvement of parents in their communities.

Datta (1979) reviewed studies on Head Start's community impact and noted that in all the studies Head Start is found to facilitate positive community changes. Most of the discussion is based on the Kirschner study, which demonstrates not only that Head Start has brought about change, but also that "a community climate conducive to change, high visibility for the Head Start program, and a high level of parent participation was associated with the greatest institutional changes." (p. 409) Datta concluded that the generalizability of these studies is enhanced through their similarity to findings of the evaluations of institutional changes related to the Community Action Program. These studies also demonstrate that active programs are associated with substantial beneficial changes in community institutions.

O'Keefe (1980) undertook a complete review of the effects of Head Start and other Administration for Children, Youth and Families programs on families. Her report, "What Head Start Means to Families," consists of research reviews and comments from individuals involved in Head Start over the years. Her review includes studies relating to parents, Head Start, and the community. O'Keefe noted the strong evidence of Head Start's positive influence in bringing about community change as described in the Kirschner (1970) and Stubbs (1980) studies. She described Head Start parents' efforts to make local communities more aware and responsive to Head Start-related needs, and the notable accomplishments of the National Head Start Association which promotes and lobbies for the program at the national level. She also described how parents' involvement in Head Start results in subsequent involvement in other community agencies or boards.

---

[11] This study is an analysis of the Parent-Child Center Program; thus, it is not included in our analysis of community impacts.

O'Keefe concluded that:

> Head Start not only affects parents and families directly, but indirectly through their communities. Head Start has been cited in studies as sparking beneficial community changes, bringing families into direct contact with social service agencies in the community, providing a source of jobs for parents, and exerting a positive influence on the community as a whole. (p. ii)

Hertz (1977) reviewed the effects of a number of Federal early childhood programs on children and families. In his discussion of community change, he noted that the research was sparse and was limited to scattered, mostly anecdotal reports and the one major systematic study of Head Start's impact on the community conducted by Kirschner. He reported the major findings of the Kirschner study and the reanalysis of survey data done by Datta, which explains under what conditions optimal change would occur.

Stearns (1971) also reviewed studies on community institutional change associated with Head Start. Stearns concluded that Head Start has had a positive impact on community health services by influencing local services to adjust to the needs of Head Start families. Although these changes may not have occurred in all communities, the potential for Head Start to facilitate the change is evident. Stearns supported this conclusion with findings from the Kirschner study. Stearns also discussed community change in terms of the effects on parents which are translated into their involvement in the community. Based on the Kirschner findings, she determined that in some instances, "Head Start parents have become a considerable community action force" due to their participation on Head Start Policy Councils and other similar groups. She concluded that:

> some parent power in Head Start had effects for the better on both parents and their young children. And, while Head Start effects cannot be separated from those of other poverty, education, and civil rights movements, we can assure that its [Head Start's] philosophy of participation--even if not practiced widely--has been influential in changing teaching and administration in the primary grades of public schools, for example, the use of paraprofessionals and the increased demand for day care and prekindergarten programs. (p. 93)

However, she noted that "most effects of 'parent power,' for the worse as well as for the better, for the poor as well as for the society in general," remain undocumented.

In summary, all of the reviewers identified positive effects of Head Start on community institutions and the community as a whole. However, they expressed concern regarding the limited number of studies available as evidence. Further, with the exception of few data, most are anecdotal or peripherally related to community institutional change. The reviewers called for additional studies which highlight such areas as Head Start's impact on economic conditions in the community and factors affecting the extent of change related to Head Start activities.

EFFECTS OF HEAD START ON THE EDUCATIONAL SYSTEM

A major focus of Head Start is the educational development of children in low-income families. Head Start's educational program activities and its recognition of the educational needs of children have the potential for affecting other educational institutions in the community to promote their responsiveness to the particular needs of low-income children. In addition, Head Start's emphasis on parent involvement has served as a model for parent involvement in community school systems. The following sections describe Head Start's linkages with school systems and the program's impact on educational institutions.

Head Start Linkages with Local School Systems

Over the years, Head Start has been associated with local public and parochial school systems. The Program Information Report (PIR), a national survey commissioned by the Administration for Children, Youth and Families (ACYF), collects annual programmatic data on all full-year Head Start programs. The most recent PIR survey indicates that 20 percent (364) of all Head Start programs (1,828) are operated by school systems. (The remaining programs are operated by community action agencies [40 percent], private non-profit organizations [28 percent], and other groups [12 percent]). (Maxima, 1983)

Although a relatively low proportion of programs are operated by public schools, Head Start's relationship with local school systems appears viable, based on the program's use of school resources. In a national survey of Head Start graduates and their peers, Abt Associates (1978) examined the program's use of community resources. Information on resources was collected via a mail questionnaire from a national sample of 122 Head Start centers; 99 centers responded. As indicated in Table 7-4, Head Start utilization of school resources was quite high and varied considering that schools operated only 10 percent of the programs in the sample. Large percentages of Head Start programs used school buildings and offices and relied on administrators, teachers, and other specialized school personnel. The researchers noted that the contact with and/or use of teachers and school coordinators suggests that there may be a high level of continuity between Head Start centers and elementary schools. However, the study did not examine the nature of communication between program staff and school staff.

Lewis (1971) examined various aspects of public school programs using Title I funds to determine what changes had evolved due to Head Start operations. In this study of 20 urban and rural school districts in 13 states, Lewis described the relationship between Head Start and the public school staff. He noted that the staff maintained close working relationships in their efforts to ensure continuity in the child's education from Head Start to public school. For example, Head Start staff and school staff visited each other regularly, reporting 48 visits during the year. In 80 percent of the school districts, there was joint staff training. Also, 95 percent of Head Start projects and 85 percent of school systems adopted policy statements by their respective boards that pledged cooperation between the two

Table 7-4

Head Start Center Utilization of Public School Resources (Abt Associates, 1978, p. 14)

Area of Contact or Use of Public School Resources	Percent of Head Start Centers
Use of Buildings	58%
Use of Offices	25%
Administrative Personnel	58%
Teachers from School System	87%
Curriculum Supervisors	49%
School Program Coordinators	81%
Other	45%

programs. In both the Abt and Lewis studies, Head Start was closely associated with the school system; this proximity certainly enhances the potential for Head Start to affect educational institutions.

Head Start has a special mandate to assist handicapped children by including 10 percent handicapped in the overall enrollment and mainstreaming these children into regular activities. The 1982-83 PIR Survey found 12 percent of the children enrolled in Head Start to be professionally diagnosed as handicapped (Maxima, 1983). Head Start has mobilized community resources and provided educational, health, and social services to meet the special needs of handicapped children. The PIR Survey reported that 99 percent of the handicapped children enrolled in Head Start received special services from Head Start as well as other agencies. These include such services as individual instruction, provision of special teaching equipment, and speech therapy/language stimulation. In addition, Head Start provides assistance to parents of handicapped children enrolled in Head Start to assist them in obtaining needed educational, social, and health services. The Head Start program also provides activities which facilitate handicapped children's transition from Head Start to public school.

In a recent evaluation of the Resource Access Projects (RAP), conducted by Roy Littlejohn Associates (1983), interviews were conducted with a random sample of 400 Head Start grantees and all 55 State Educational Agencies. RAP is a program which identifies local, regional, and national handicapped resources; provides resource materials; facilitates collaboration between Head Start and other agencies; and provides training and technical assistance on mainstreaming. Head Start programs comprise 75 percent of those requesting RAP services. The evaluation highlights the types of services provided to Head Start projects; many of the activities facilitate mobilization of community educational and human resources for handicapped children. Mainstreaming is a critical concern of Head Start programs; 87 percent of the sampled Head Start program staff attended mainstreaming conferences organized by RAPs. RAPs also assisted Head Start in developing collaborative agreements with State and local educational agencies as well as other community organizations to ensure responsiveness to handicapped children. This study indicates that Head Start has demonstrated a commitment to serving handicapped children and accessing resources from and coordinating with other agencies to meet the special needs of these children.

Head Start Impact on Educational Institutions

Several studies have examined, directly and indirectly, the impact of Head Start on local educational institutions. The types of impacts are diverse, including, for example, modification of school practices; introduction of Head Start concepts, such as parent involvement, into the school system; and changes in parents' perceptions and actions relating to control over their child's education.

As a national program which promotes education of young children, Head Start's potential for impact is great. Valentine et al. (1979) commented that Head Start's diversity has made it a continuing national laboratory of children's programs.[12] For example, Head Start's experiences with mainstreaming the handicapped should prove useful to school systems attempting to comply with Public Law 94-142.

The Kirschner study (1970) provides the most comprehensive analysis of Head Start's impact on educational institutions. One half of the institutional changes identified in the study were associated with promoting greater educational emphasis on the particular needs of the poor. The types of changes identified varied greatly. The Kirschner researchers categorized the changes as follows: personnel, teaching methods, curricular content, physical facilities, socio-psychological services, enrichment activities, and new programs.

Personnel changes in school systems were reported widely. The changes usually represented an increase in the number of teachers and/or a change in the composition of the staff to include more minorities. Often, this included transfer of a Head Start concept to a public school system. For example, the transfer of Head Start's philosophy of employing paraprofessionals is illustrated in the following anecdote:

> An eastern school system began to employ paraprofessionals as teachers' assistants after public school teachers requested absence from the school system and taught in Head Start, where they had gained experience in working with paraprofessionals. (p. 88)

---

[12] Valentine, J., Ross, C., and Zigler, E. "Epilogue." In Project Head Start: A Legacy of the War on Poverty, by E. Zigler and J. Valentine. New York: The Free Press, 1979, pp. 508-514.

The researchers also found changes in teaching methods and curricular content. The change in methods usually reflected a less formal classroom environment and more individualized attention. Curricular changes focused on including content relating to minority groups and the use of multicultural materials. Improvements in physical facilities also were noted as changes related to Head Start involvement. An example of transfer of the Head Start educational approach is provided in the quote below:

> Many of the kindergarten teachers in a large city school system in the West modeled their classroom scheduling and programming after the Head Start program. Most ... were former Head Start staff members who had successfully used the new, less rigid techniques with Head Start children. When these Head Start staff members became a part of the regular school system, they took their ideas and methods with them. (p. 12)

Changes in socio-psychological services also were mentioned; a greater emphasis was placed on having these types of services available in poverty neighborhood schools. This frequently involved the employment of social workers, counselors, and home visitors in the schools.

New programs and enrichment activities also have been introduced in the schools. Some schools have established kindergartens and prekindergartens in poverty areas. Other changes included the provision of educational and day care programs for children of unwed student mothers and low-income working parents. The Head Start philosophy of meeting the whole family's needs may have influenced the introduction of new adult basic and vocational education programs in the schools. The following excerpt illustrates the role of the program in influencing resolution of a community problem through creation and expansion of a new program:

> Head Start staff and parents organized an after-school recreational program because of the realization that school-aged Head Start siblings needed a place to play after school hours. Initially, the program was held in Head Start centers with parents alternating as volunteer supervisors. The program became very popular in the poor neighborhoods ... and Head Start staff requested that the school system take over the program so that it could be enlarged. (p. 69)

The Kirschner authors' examination of 32 of the changes in the education area revealed that Head Start was involved in some way in all the changes. The level of involvement ranged from minimal to intense--the important fact being that Head Start was associated with each of the 32 changes. The program itself, the staff, and the parents all participated in the process of bringing about a desired change in an educational institution. The Kirschner findings indicate that Head Start's involvement in change included such diverse roles as:

- Providing a place for staff and parents to discuss issues and approach resolution in a concerted manner;

- Introducing new concepts, methods, and curricula which have been adopted by local school systems;
- Setting an example to stimulate schools to adopt approaches which enhance the learning ability of poor children; and
- Increasing local school system awareness of the educational needs of the poor and supporting establishment of new programs to meet these needs.

Midco Educational Associates (1972b) examined the effects of parent participation in 20 Head Start centers which were selected to achieve a balance of parent involvement features, geographic area, ethnic population, rural/urban locale, and grantee versus delegate agency administration. One of the outcomes examined was institutional change which occurred in the community as a result of parent involvement in Head Start. The researchers asked 173 parents at the 20 centers to identify and list institutional changes associated with Head Start.

The parents identified 34 changes in the educational area, or 26 percent of all changes reported. The changes generally were associated with placing greater education emphasis on the needs of the poor. Study findings also indicate that in centers where parents were not highly involved in Head Start, the parents felt less able to influence their school systems.

Head Start programs can influence change in educational institutions through the provision of training or technical assistance. The Service Delivery Assessment study (HEW, 1977) examined Head Start services in 29 programs across 22 states. More than 1,000 individuals were interviewed including parents, Head Start staff, public school staff, and public officials. The authors reported that some programs provided Head Start staff to public schools as trainers to increase the schools' understanding of and ability to deal with the comprehensive needs of low-income children and their families (HEW, 1977). Also, some Head Start programs in the Northwest worked with local public schools to assist them in special education screening and treatment. This study also noted the increased use of teacher aides in the classroom brought about by Head Start parent activities.

Chertow (1969) conducted a comparative analysis of four Head Start programs in upstate New York--two in cities (Amsterdam and Utica) and two in rural areas (Newfield and Red Creek)--to ascertain the influence of rural/urban variables in the administrative performance of Head Start. Chertow noted the impact of Head Start on the educational system in both rural and urban areas. She cited several innovations which Head Start made popular in the school systems: use of teacher aides and other assistants; establishment of special projects geared to the disadvantaged; and efforts to involve the parents in school activities.

Lewis (1971) identified a number of organizational changes which had occurred in school districts receiving Title I funds since the inception of Head Start in the studied communities. For example, school districts expanded their curricula to accommodate younger children. Another major organizational change in the Title I schools was the increased participation of the parents in the educational process. Parents served on newly created policy advisory boards, and, in some instances, participated in the selection of school staff. Also noted was the increased utilization of parents as paid and non-paid classroom volunteers. The parents interviewed in the study confirmed the increase in their involvement in their schools. As one parent commented, "It's great to give the school folk some of your mind." (p. 129)

Head Start's emphasis on parent involvement has, in some instances, affected the educational status of parents, which in turn, has made them more active in their communities' educational institutions. In Adams' (1976) study of 25 Head Start parents (24 mothers and one father) in Dane County, Wisconsin, Head Start had a direct role in 17 parents taking courses in local community education facilities. Their increased feelings of worth may have influenced future participation in their child's educational process and other community issues. One parent stated, "I felt so proud--I felt as tall as this world ... now, I can say that I got the G.E.D." (p. 12)

Several researchers examined the effects of Head Start on changing parental attitudes toward education (e.g., Kearney, 1969; Midco, 1972; and System Development Corporation, 1972). However, the results of the studies on this topic are mixed with most showing no change in attitudes. As Hubbell (1983) concludes:

> These studies imply that Head Start has little effect on changing the attitudes of parents toward the value of education. However, children whose parents do value education perform better on cognitive tests and behavior ratings. (p. 31)[13]

In summary, Head Start and a community's educational system often have a unique symbiosis. In some instances, Head Start programs are operated by public schools; in many more cases, Head Start uses a variety of school system resources. Changes in educational institutions are associated with Head Start involvement. Many of the changes reflect the transfer of Head Start concepts, such as the use of teacher aides in the classroom and parent involvement, to public school systems. Most of the studies reviewed here provide information on what changes had occurred, citing specific examples, such as modification of curricula and establishment of new programs directed to the disadvantaged. However, the Kirschner study alone describes in depth how Head Start was actually involved in bringing about the change. Most often, Head Start has served to create an environment conducive to change by increasing awareness of the problem, proposing and supporting a specific concept or idea, and setting an example to stimulate schools to adopt successful approaches for meeting the educational needs of poor children.

---

[13] Hubbell, R. The Impact of Head Start on Families; Preliminary Report. ACYF, DHEW. November, 1983, (unpublished).

Head Start also plays a role in providing parents with opportunities and encouragement to pursue educational endeavors. However, there is little evidence to indicate that Head Start has changed parental attitudes about the value of education.

EFFECTS OF HEAD START ON THE DELIVERY OF SOCIAL AND HEALTH SERVICES

As a comprehensive program, Head Start is concerned with meeting the health and social service needs of participating children and their families. Head Start health and social service objectives emphasize Head Start's responsibilities for providing or arranging for services, for providing families with skills to ensure their awareness and use of services, and for cooperating and coordinating with other public and private community agencies. Head Start programs are required not only to coordinate with other agencies to arrange for client services, but also to call "attention to the inadequacies of existing community services, or to the need for additional services, and assisting in improving services, or bringing in new services...."[14] Head Start's role in coordinating with other agencies and advocating for services has the potential to affect the practices of community health and social service agencies. Further, there is the potential for social and health institutions in the community to change because Head Start promotes parental skills in accessing resources and ensuring that a service meets local needs.

Clearly, the provision of a wide range of health and social services to children and their families is an essential component of the Head Start philosophy. The discussion below highlights the types of Head Start services arranged for and/or provided, Head Start's role in the community health and social service systems, and Head Start's impact on community social and health institutions.

Provision of Social and Health Services

Head Start acts as a service provider and a service coordinator of social and health services. The program plays a major role in ensuring that Head Start children receive the required health examinations and treatment. According to the PIR survey, most Head Start children are medically screened; 97 percent of those needing treatment receive it. Similarly, most children receive dental exams and 95 percent receive subsequent treatment when needed (Maxima, 1983). This information and summary data on other health services characteristics are contained in Table 7-5.

---

[14] Head Start Performance Standards, op. cit. p. 57.

Table 7-5

Health Services
Based on PIR Data

Head Start Health Performance Indicators	Percent
Children (3 Yrs. and Over) Completing Medical Screening	87
Of Those Screened, Percent Needing Medical Treatment	25
Of Those Needing Medical Treatment, Percent Receiving It	97
Children Completing Professional Dental Exams	82
Of Those Examined, Percent Needing Dental Treatment	41
Of Those Needing Dental Treatment, Percent Receiving It	95
Children Completing All Required Immunizations	94
Children Enrolled in Medicaid/EPSDT	45
Of Those Enrolled, Percent Receiving Medicaid (EPSDT-Paid Screening)	86
Of Those Enrolled and Screened (regardless of payment source), Percent Needing Medical Treatment	23
Of Those Enrolled and Needing Treatment, Percent Receiving Medicaid/EPSDT-Paid Medical Treatment	78
Of Those Enrolled, Percent Receiving Medicaid/EPSDT-Paid Dental Exams	69
Of Those Enrolled and Examined (regardless of payment source), Percent Needing Dental Treatment	31
Of Those Enrolled and Needing Treatment, Percent Receiving Medicaid/EPSDT-Paid Dental Treatment	80

Nutrition is also an important component of the Head Start program. Centers provide meals, snacks, and nutrition education to children and parents. The 1982-83 PIR survey, the most current PIR available at the time this report was prepared, reports that 94 percent of all programs reported receiving funds for food from the U.S. Department of Agriculture (Maxima, 1983).

As shown in Table 7-6, the Head Start program also provides social services directly or refers families to other agencies for services. Of the approximately 66 percent of families identified as needing social services, almost all (96 percent) receive services either from Head Start directly, through referral to other agencies, or from a combination of programs and agencies. About 41 percent of the families receive services from only Head Start, whereas 18 percent are referred to other agencies. The remaining 38 percent receive services from Head Start and are referred to other agencies (Maxima, 1983).

The Service Delivery Assessment study (HEW, 1977) found that 80 percent of the 437 Head Start programs examined had a viable social services staff who offered, directly or through referral, a broad range of community services. The one exception was the Southeast region, where Head Start services were limited primarily to crisis intervention services.

Table 7-6

Social Services
Based on PIR Data

Head Start Social Services Performance Indicators	Percent
Families Identified as Needing Social Services	66
Of Those Families, Percent Receiving Social Services	96
Of Those Families Receiving Social Services,	
Percent Provided Social Services Only from Head Start	41
Percent Provided Services Only Through Referrals	18
Percent Provided Services Directly from Head Start and Through Referrals	38

Head Start social services staff provide a variety of services. According to the same study, staff provide assistance in the following areas: transportation, family counseling, food and housing, babysitting, and general social support. Head Start staff also disseminate information about community resources and accompany parents to other local agencies for services. The social services staff reported major efforts to involve actively the parents in identifying and solving family problems.

Head Start has played an important role in mobilizing health resources for Head Start children. One approach has been to increase Head Start participants' utilization of services provided through the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) program. One way this has occurred is through the development of formal collaborative agreements at the state level between Head Start programs and EPSDT. In 1982, 17 states had operational Head Start/EPSDT interagency agreements, and three additional states were finalizing their agreements. In addition, there have been efforts at the local level to improve the use of EPSDT services by Medicaid-eligible Head Start participants (Westinghouse Systems, 1982).[15]

---

[15] See also, Recipes for Success: Head Start and EPSDT. Community Health Foundation for the Department of Health and Human Services, Washington, D.C., 1976.

In 1974, the Office of Child Development funded 200 local Head Start demonstration programs to develop effective and replicable approaches to collaborate with the EPSDT program. This report describes the efforts and results of the collaboration.

The Head Start program goal of encouraging families to become aware of and to use community resources is accomplished through several methods. One direct method discussed previously is through referral to local agencies as needs arise. Another major method is the development of a community resources list. Stubbs (1980), in a national Head Start parent involvement study, found that 97 percent of the 38 randomly selected Head Start programs studied had a community resources list available for the parents, and 82 percent had conducted training for parents on how to use the list. Further, 71 percent of the programs indicated that parents were actually involved in the development of the list. The Service Delivery Assessment study noted that the majority of programs studied maintained and distributed a list of community resources.

The types of community resources utilized by Head Start families are illustrated in the results of a national survey, reported by ACYF (1980). As Table 7-7 indicates, high percentages of these families use a range of resources, from food stamps to the State employment office.

Table 7-7

Head Start Families' Utilization of Community Resources

Community Resources	Percentage of Head Start Families Using Resources
Food Stamps	72
Public Health Clinic	70
Family Planning	45
Welfare Department	66
Legal Aid	23
Housing Authority	24
WIC (Women, Infants and Children—nutrition)	33
State Employment Office	47
Job Training Programs	21

The Abt Associates study (1978), cited previously, examined the availability and use of community resources. The study included children and families from 99 randomly selected Head Start centers as well as a comparison group of children and parents not involved with Head Start. The authors reported that health care facilities generally were available to most Head Start Centers; the availability ranged from 52 percent for comprehensive centers to 98 percent for nutrition services. When facilities are available, they are frequently used (89 to 100 percent), as shown in Table 7-8. Although the study did not compare usage of health resources by Head Start parents to non-Head Start parents, there are some indications that Head Start affected usage. Seventy-nine percent of Head Start parents reported that their program had helped them arrange for other medical care, compared to 41 percent of parents from non-Head Start preschool programs.

Table 7-8

Availability and Use of Health Services

Service/Resource	Percent of Centers Reporting Availability	Percent of Centers Reporting Use if Available
Comprehensive Health Center	52	89
Medical Laboratory	84	99
Public Health Clinic	97	100
Speech Therapy Clinic	82	92
Nutrition	98	96

Social services resources are also widely available and frequently used. As illustrated in Table 7-9, availability ranges from 67 to 96 percent, and use from 72 to 98 percent. Unfortunately, the studies cited provide no empirical evidence to ascertain Head Start's influence on families' use of community resources. However, the parent interviews provide an indication of the potential impact Head Start has on resolving families' social services problems and needs. When queried as to whether the program had helped with family or personal problems, 33 percent of the Head Start parents stated that Head Start had been of "some" or a "great deal" of help. Only 16 percent of parents from other preschool programs reported their program had helped them with family problems.

Sharp (University of Washington, 1968) studied the impact of Head Start health care on the families of children enrolled in Head Start in Seattle. Of the 140 parents interviewed, 63 reported that someone from Head Start had assisted them with their child's health. Fifteen parents reported that Head Start also provided help for children in the family other than the enrolled

Table 7-9

Availability and Use of Social Services

Service/Resource	Percent of Centers Reporting Availability	Percent of Centers Reporting Use if Available
Mental Health Clinic	90	87
Guidance Clinic	67	90
Psychological Services Clinic	96	98
Work and Recreation Facility	72	86
Family Counseling Agency	84	83
Family Planning Agency	93	72
Other Family/Child	87	84
Work Experiences and Training	90	95
Community Work/Training	79	88

child. Parents rated Head Start health personnel very positively in terms of their helpfulness and availability in assisting with child and family health problems.

In summary, Head Start provides social services directly or links families with other community resources. There also is evidence that programs encourage use of these resources; however, it is unclear whether Head Start increases the utilization of these resources or what effects they have on families.

Head Start's Role in the Community Health and Social Service System

The potential for Head Start to have an impact on community institutions is related to its role in the community's human services system. Several studies have examined the role Head Start plays in coordinating resources and ensuring that adequate resources are made available, not only to Head Start families, but also to other individuals in the community.

Stubbs (1980), cited previously, found that the staff of 63 percent of the Head Start programs studied have joined community organizations to increase community awareness of Head Start family needs. In 29 percent of the programs, the Head Start center actually had helped form community organizations. Although these activities were identified as methods used to encourage parental involvement in the community, the aggressive stance taken by Head Start in community organizations set the stage for possible institutional change.

Head Start is an important information and referral resource for community residents, regardless of their association with Head Start. In the Service Delivery Assessment Study (HEW, 1977), non-Head Start families were the primary recipients of Head Start's information and referral activities in one-half of the programs. Most of the requests related to assisting families to locate child care resources.

This same study found that Head Start was viewed not only as a major resource in the community, but also as an advocate for Head Start families. In 55 percent of the programs, staff reported that their program is most effective as an advocate for Head Start clientele in crisis situations (e.g., emergency or protective services). Moreover, in attempting to help parents receive assistance, Head Start staff have become involved in addressing a broad range of basic family needs, such as emergency housing, food, fuel, jobs, and welfare eligibility and payment.

Head Start program staff also advocate public issues affecting participating children and families at the State and local level (HEW, 1977). Although this type of activity occurs less frequently than family advocacy efforts, it has the potential for more widespread impact. Head Start program staff undertake such activities as testifying for social services legislative improvements and participating on advisory boards and commissions with responsibility for social services. Three examples below illustrate the types of activities undertaken by Head Start staff.

- One program director from a rural Northeastern community recently testified for a new State child abuse bill.

- A project director in the West participated on televised forum panels and public hearings for Head Start expansion.

- Pooling their resources, a group of Head Start directors from an Upper Northeastern state hired a child advocate to work in the State capitol. The advocate keeps the directors informed of relevant State developments concerning special education in general, testifies before the legislature, and attempts in other ways to serve as an advocate for children (HEW, 1977).

The above-cited studies indicate the various ways Head Start is involved in the community health and social services network. However, these studies do not relate the Head Start efforts to actual changes in community social and health institutions. Two studies, by Kirschner and Midco, demonstrate how Head Start efforts are associated with institutional change.

Head Start's Impact in Changing Community Social and Health Institutions

The Kirschner study (1970) involved lengthy interviews with Head Start staff, individuals associated with community action programs, school systems, and health services, and other relevant persons in 58 communities to determine the extent of change which had occurred in community institutions. Of the 1,496 changes related to Head Start objectives, 26 percent, or 393, involved modification of health services and practices to serve the poor more effectively. In addition, some of the changes identified in the other three categories (i.e., increased involvement of poor with institutions, greater employment of local persons in paraprofessional occupations, and greater educational emphasis on the needs of the poor and minorities) related directly or indirectly to changes in social service institutions.

The researchers found that health services for low-income families have increased both quantitatively and qualitatively in Head Start communities. Changes in the mental health area were cited most frequently; more than 70 percent of the survey communities experienced positive changes in their mental health institutions. Examples of these changes include:

- comprehensive new out-patient mental health clinics which provide services free of charge or have fees based on ability to pay;

- improvements in existing public mental health clinics, such as increased staff, additional services, and space for private consultations; and

- newly established public clinics designed to rehabilitate people with specific problems, such as alcoholism and drug addiction. (p. 65)

Respondents identified other types of changes, for example, the establishment of health service clinics (planned parenthood, dental, prenatal and well-baby clinics) in or proximate to low-income communities; the addition of social workers and home-visiting nurses to the staffs of health care facilities; and desegregation of health care facilities.

Additional changes, although categorized as non-health-related changes, reflect modifications in social services institutions or practices. For example, a school system has placed social workers, mostly minority, in ghetto neighborhood schools. In other instances, social and psychological services were given greater emphasis in school systems to ensure that both the child's and family's needs were being met. "In a number of communities it was reported that the 'official' emphasis was now on the 'total child,' not merely his educational attainment (in keeping with Head Start philosophy). Thus, services were being provided that concerned family relations, psychological factors, and health." (p. 63)

The study also examined Head Start's involvement with changes that had taken place. Head Start was involved in 12 of the 15 health-related changes studied in depth, or 80 percent. As discussed earlier, Head Start was involved at various stages of the change process. The program itself, the staff, and parents all were identified as initiators of change. In the preliminary stages of change, Head Start created an environment that was conducive to change, for example, increasing the demand for health and social service needs.

> Head Start parents learned about health facilities and began to use them with increasing frequency, thus placing a burden on staff and facilities. In order to meet the new demands on its resources, satellite health centers were built in poverty neighborhoods and new personnel were employed to staff them. (p. 84)

Head Start parents or staff members also proposed changes:

> A health care clinic in an eastern industrial city represents the culmination of many months' efforts by Head Start parents, university medical students and faculty members, and the public health department. The concept for this clinic appears to have been the brainchild of Head Start parents and other members of the Head Start Parent Advisory Committee. (p. 91)

Head Start efforts to change local health and social institutions involved a wide range of techniques. Based on the data available, most efforts were designed to achieve the outcome of increased and more comprehensive services to be responsive to the needs of the poor.

The Midco study (1972b) also reported on changes in community health institutions. Of the 132 changes reported by parents which were associated with involvement by Head Start parents, 16 (12 percent) were associated with modifications of health institutions. This differs from the findings of the Kirschner study, which found 26 percent of the changes in health-related institutions. The Midco authors noted that the differences may be attributed to the different study time periods, policy changes in the Head Start programs, and the sample selection process. In the Midco sample, centers were stratified to cover equally the different types of parent involvement. However, the major difference may be that parents were the primary respondents, whereas Kirschner included Head Start program staff and officials from other community agencies and programs.

Further, only institutional changes which met the criteria of involving Head Start parents were reported in the Midco study. The parents interviewed in the Midco study commented on the individual and collective effects of these institutional changes. The parents primarily identified benefits to themselves or their children. For example, in centers where significant changes had occurred in the health institutions, parents were grateful for the better health enjoyed by their children and by the fact that they were no longer pressured to pay for all medical services received through Head Start. Some parents commented on community-wide impacts, such as improved medical services, increased pride in the neighborhood, increased community interest and awareness of the needs of low-income families, and increased use of agencies and services.

One example of a change affecting the low-income community is illustrated in the following anecdote from the Midco (1972b) study:

> The Head Start nurse explained to the parents that the medical services provided for the community's low-income families were inadequate. Head Start parents then arranged meetings with medical professionals to obtain health and nutrition information and to encourage the professionals' awareness of the needs of low-income residents. Working together, the local doctors, nurses, and the parents initiated community prevention health programs and increased the availability of services to low-income families. (p. 213-214)

The Midco researchers also found that the number and importance of institutional changes are related to the extent and type of parent involvement in Head Start programs. Where parent participation was high, more institutional changes were reported. These differences are discussed more fully in a subsequent section.

In summary, Head Start programs appear to have a positive impact on community social and health institutions. Modifications made in these institutions often are associated with Head Start activities or actions, are initiated by program staff and/or Head Start parents, and result in better service delivery to the low-income population.

The health and social services-related goals of the Head Start program mean that the program often plays a major role in providing and coordinating social and health services in the community. In addition, it provides parents with the skills to become aware of and use community resources and it encourages their involvement in influencing needed changes in social and health institutions.

Although the studies reviewed indicate that Head Start has the potential for affecting health and social institutions, only two studies identify specific changes which have occurred. Further, these changes cannot be attributed directly to Head Start, but rather are associated with Head Start involvement. Unfortunately, the question of attribution is a difficult one, and one for which it may be impossible to specify the exact extent of Head Start impact on community institutional changes.

EFFECTS OF HEAD START ON PARENTAL PARTICIPATION IN THE COMMUNITY

As a program which primarily serves the poor and minorities, Head Start has the potential for increasing their participation in community institutions. Head Start program efforts to meet the comprehensive needs of the poor in the community can result in this group's increased participation in community agencies. In addition, Head Start focuses on involving parents in the program, contributes to the development of parents' self-concepts and leadership skills, and encourages their active participation in community activities. These efforts can result in changes that benefit the poor and minorities generally. The following sections describe Head Start's impact on parents which has led to their community participation, and the overall impact of Head Start on the participation of low-income residents as community decisionmakers.

Head Start Impact on Parents that Promotes Community Participation

A basic tenet of the Head Start philosophy is parental participation in the program as learners, volunteers, staff, and decisionmakers. The regulations state:

> It is clear that the success of Head Start in bringing about substantial changes demands the fullest involvement of the parents, parental substitutes, and families of children enrolled in its program....
>
> Successful parental involvement enters into every part of Head Start, influences other anti-poverty programs, helps bring about changes in institutions in the community, and works toward altering the social conditions that have formed the systems that surround the economically disadvantaged child and his family.[16]

Head Start provides decision-making opportunities for parents through the Parent Advisory Committees (PAC) and Head Start Policy Councils (of which 50 percent must be parents of Head Start children). Stubbs (1980) reported that Head Start parents or former parents constituted 89 percent of the membership on program policymaking councils and committees. Further, in many of the programs, Head Start staff provided training for parents on the roles and responsibilities of decisionmaking in the policy groups. Most Head

---

[16] Federal Register, Vol. 40, No. 126, Monday, June 30, 1975.

Start programs encouraged community involvement by parents. Methods used by the programs to promote this participation include: staff encouraging parents to join community organizations (76 percent of programs studied); encouraging parents to discuss the proceedings of public meetings with staff and other parents (71 percent); and training parents on how they can participate in organizations (61 percent).

Adams (1976) discussed the transferability of decisionmaking skills acquired through Head Start participation. She noted that parents' involvement on parent advisory councils leads to similar participation on other community agency boards. She described the parents as "reinvestors" in the community, that is, the initial investment to Head Start leads to a greater and broader community role.

Midco Education Associates (1972b) found that parents with high involvement in Head Start had previously been highly involved in their communities. While their children were in Head Start their community involvement in activities other than Head Start decreased, probably due to their increased participation in Head Start activities. However, their community involvement rose and exceeded earlier levels after the child left the program. Head Start had little influence on parents who had low participation in Head Start or the community. There were no changes in the level of community involvement or feelings toward involvement of those parents who did not participate in Head Start or community activities while their children were in Head Start or subsequently. Midco's findings leave unresolved the question of whether there is a causal relationship between Head Start and parental involvement in their communities. However, it does appear that Head Start influences those who were already active to become more active.

Employment in a Head Start program can enhance one's status and influence in the community, as Jacobson (Bank Street College, 1970) noted in an indepth case study of professionals and paraprofessionals in two Head Start centers in New York City. She described and quoted one Head Start parent employed by Head Start who commented:

> People ... look ... at me differently. ... We had elections for the Board of the Community Corporation and ... several people came up to me and asked me why I didn't run. ... It was sort of satisfying that they should come up with this suggestion. (p. 41)

In this case, the individuals in the community felt that this parent's Head Start experience had qualified her to represent the community. The author concluded that this individual's knowledge of Head Start operations, organizational structure, and fundraising are easily transferred to enable active participation in other community organizations.

Perhaps the greatest evidence of Head Start's impact on parents' participation in community decisionmaking activities is the strong support demonstrated by Head Start parents throughout the program's history. For example, in 1978 parents lobbied actively against President Carter's proposal to transfer Head Start to the Department of Education. As Valentine et al. comment:

> Parents who might never have written a letter or made a phone call now knew what to do. The disadvantaged were able to sway a congressional committee to vote against the Oval Office.[17]

O'Keefe (1979) described the community involvement of the national Head Start Association, comprised of staff, parents, and other concerned citizens. The organization analyzes legislation related to Head Start and lobbies for specific concerns benefiting Head Start. O'Keefe noted that the California State Parent Association, composed primarily of Head Start families, is involved in analysis and advocacy for positions on a wide range of issues, such as housing, television, commercials, and Proposition 13.

The Head Start literature provides evidence that the program offers broad opportunities for parents to develop leadership and decisionmaking skills. As a low-income group, the extent to which the parents use these newly acquired skills to participate as community decisionmakers can benefit the low-income population as a whole.

Head Start's Impact on Increasing the Community Involvement of the Poor

In the communities surveyed in the Kirschner (1970) study, there was an increase in the participation of Head Start parents and other individuals from the poverty communities in the activities and decisions of local institutions. Of the 1,496 types of changes identified in the survey, 20 percent (305) were associated with increased involvement of the poor with institutions, particularly at decisionmaking levels and in decisionmaking capacities. Many of the changes related to increased involvement of parents in the school systems, for example, increases in the number of volunteers in the schools and greater use of school facilities for community meetings, adult education classes, and service programs. The researchers found that Head Start advocated for change indirectly by encouraging other organizations to support changes which would benefit the poor. For example, in a Southwestern community, Head Start allied itself with prominent, active Mexican-American organizations to campaign for changes it felt were needed in the school system.

The authors also noted the increase in neighborhood or parent organizations' involvement in and influence of local institutional decisionmaking. In several instances, low-income and minority group members were elected as members of city-wide school boards.

---

[17] Valentine et al. "Epilogue." In Project Head Start: A Legacy of the War on Poverty, by E. Zigler and J. Valentine. New York: The Free Press, 1979, p. 511.

In the Midco (1972b) study, described earlier, 48 percent of the changes reported by parents related to increased participation in community institutions. In addition, the parents reported changes in their Head Start programs, many involving fundraising for the programs. The concept of Head Start as the training ground for participation in other institutions is reinforced by these study findings. The following anecdote from the Midco (1972b) study illustrates the role Head Start parents play in increasing the participation of the low-income residents in the community and in effecting community change.

> Head Start parents organized more than 500 community residents to sign petitions and write letters to put political pressure on state representatives to maintain funding for a day care center that was to be closed due to lack of funds. These funds were forthcoming and the day care center remained open. Since interest and involvement by the parents and other residents continued, the day care center was expanded and became a community center for low-income and migrant families. It provided infant and old-age facilities, a library and literacy classes, emergency food and clothing supplies, a rescue mission, and a community social worker. The center had become the hub of continued institutional intervention and change with new plans including such action as migrant labor reform. (p. 213)

In summary, Head Start provides a wide range of opportunities which could contribute to parents' participation in other community institutions. The studies available are filled with anecdotes illustrating the transferability to other community agencies of skills learned by Head Start parents. Unfortunately, there is a lack of well-designed research to document the level and nature of involvement and attribution of involvement to Head Start. Indeed, one study questions the causal role of Head Start in increasing involvement of parents in their communities. This study found that most parents involved in Head Start (and subsequently in their communities) were involved in their communities prior to being Head Start parents.

Overall, Head Start was shown to have a positive impact on increasing involvement of the poor with institutions, especially at decisionmaking levels and in decisionmaking capacities. Most of the involvement referred to current or former Head Start parents rather than the low-income community at large. However, the absence of reporting on the activities of other individuals in the community does not necessarily imply that Head Start was not influential. Again, additional research is needed to track the participation of individuals and groups and their relationship to Head Start to arrive at more defensible conclusions about Head Start's impact.

EFFECTS OF HEAD START ON THE ECONOMIC BASE OF THE COMMUNITY

The Head Start program is an integral part of a community's economic environment. Head Start employs local residents and purchases goods and services in the community. As such, it contributes to the economic wellbeing of individual residents and other businesses and agencies. A comment from a public official interviewed for the Service Delivery Assessment Study (HEW, 1977) illustrates this position: "Head Start has been like adding a small business to the community." Head Start also has an impact on the economic status of Head Start parents by employing them and involving them in education, training, and other activities which enhance their employability. The following sections describe Head Start's influence on the economic base of the community, and its specific effects on parent employment opportunities.

Head Start Effects on the Economic Base of the Community

The Head Start program employed 75,860 people in more than 1,200 communities in 1982-83, according to the most recent data available from the Administration for Children, Youth and Families. Twenty-nine percent of those employed were parents (Maxima, 1983). Approximately fifty-nine percent of these were minorities (ACYF, 1980).

Many of those whom Head Start employs were previously unemployed. In a study conducted by the Economic and Youth Opportunities Agency of Greater Los Angeles (1971), findings indicate that the program was providing jobs for 464 previously unemployed people. Head Start also has a positive economic impact on single parents who were able to work with the provision of child care (HEW, 1977).

In addition to the jobs available in the Head Start program, other jobs in the community have developed as a result of Head Start-related activities. Kirschner Associates (1970) noted Head Start's influence on increased institutional employment of local persons in paraprofessional roles. For example, in the educational system, they filled positions such as teacher aides, home visitors, community relation advisors or clerical aides. The researchers found that some school systems viewed the positions as career advancement opportunities whereas others did not. The health agencies also employed paraprofessionals from the low-income community. The findings suggest that Head Start had some influence in other institutions hiring paraprofessionals, although it cannot be stated that the changes were directly attributable to Head Start involvement. Head Start programs' requests for other agency services and the commitment to serve the low-income and minority residents may have resulted in the increased employment. Two reasons were cited for hiring additional local staff: (1) to increase the effectiveness of the limited agency resources to meet the increased demand for services, and (2) to serve the additional new caseload more effectively and sensitively. It should be noted that at the time of the data collection in 1968, civil rights and similar groups were actively promoting employment of local low-income and minority groups.

In the Midco (1972b) study, the parents interviewed identified seven changes, five percent of all changes, which related to increased institutional employment of the poor. It is unclear whether the changes referred to employment of just Head Start parents or other low-income individuals as well. However, most of the anecdotes were included to illustrate changes focused on employment of Head Start parents.

Lewis (1971) examined the influence of Head Start in 20 school districts receiving Title I funds and identified changes in employment practices which were closely associated with activities initiated by Head Start. Results revealed that Head Start's influence was positively related to an increased number of persons from poor communities who were employed by the school districts as paraprofessionals, such as classroom and community aides. The author concluded that the increased number of paraprofessionals in Title I programs was an indication of Head Start's influence, because it is Head Start's policy to employ paraprofessionals as classroom aides.

Lewis (1971) also found that more early childhood education specialists were employed in the schools, which came about as a direct result of Head Start's involvement. The employment of these specialists would ensure that the transition from the Head Start program to public school would include continued attention to the accomplishments and needs of the Head Start children and other children from low-income and minority families.

Head Start Impact on the Economic Status of Parents

The Head Start program itself provides valuable opportunities for employment and career advancement for Head Start parents. Head Start programs are encouraged to hire parents as paid staff when possible. The 1982-83 PIR survey found that 29 percent of the staff in all Head Start programs are, indeed, parents of children in the program (Maxima, 1983). Similarly, another Kirschner Associates' study (1978), The Assessment of Child Development Associates' (CDA) training program, found that fifty-six project managers (70% of the sample) indicated that some of their CDA trainees were also Head Start parents. Fifty of 80 project managers (62.5%) reported that 374 of their 1,126 CDA trainees (33.2%) were parents of current or former Head Start children.

Stubbs (1980) reported that 32 percent of the staff in the Head Start programs studied were parents of children currently or formerly enrolled in Head Start. However, the level of parental employment ranged from a low of no parents employed in one program to a high of 90 percent in another program. Lewis (1971) noted that parents were employed by Head Start programs to assist in implementing the instructional program, as well as to undertake duties in the classroom.

In an in-depth study of two Head Start centers, Jacobson (Bank Street College, 1970), examined the roles and benefits of Head Start parents as classroom aides. Although most of the data are anecdotal, they provide interesting insights on how Head Start employment affects parents. Both Head Start teachers and aides state that the aides were more involved in their present Head Start jobs than in previous jobs, which were often unskilled factory or restaurant positions. Aides felt the Head Start job was status-enhancing, and often reported wanting to go on to "better things." One aide stated, "with all the things I learned, I could go on to another job, and another school ... high as I can go, just go" (p. 19). However, the aspirations for mobility could be related to the support of the teacher for the assistant because, in another instance, an aide who did not receive positive reinforcement for long-term goals rejected mobility and was perfectly satisfied to work as an aide.

Jacobson also examined the role of family aides who assist the social workers in the Head Start program and compared their attitudes with those of the classroom aides. Fewer family assistants than classroom aides considered the possibility for vertical mobility. One reason for this difference may have been the purported lack of professionalism of the family assistance staff, who identified more with the parents than with the social workers. On the other hand, classroom aides viewed themselves as co-teachers and were perceived as such by the community. However, some family assistants viewed the experience as an opportunity to develop interpersonal and work skills which could influence future possibilities for advancement.

Adams (1976) also examined parent involvement in Head Start and how the involvement affected the parents. One of the major impacts reported was the overwhelmingly favorable attitude of these parents toward Head Start as a good entry into the job market. Of the eight parents employed by Head Start, all had experienced promotions within the program, and six had moved from their positions in Head Start to higher paying positions in other community organizations. Immediately prior to their Head Start experience, all had been unemployed and their work histories had consisted of low-paying jobs with minimal potential for advancement.

Although there are few empirical studies which document how Head Start's employment of parents improved their life status, there are numerous anecdotes which illustrate an abundance of ways in which parents have advanced economically subsequent to working on Head Start.

One of Head Start's founders, Richard Orton, commented that the evaluations of Head Start do not relate the full impact of Head Start, especially the individual success stories of thousands of Head Start parents. One individual to whom he pointed began as a Head Start parent who eventually became chairwoman of the Policy Advisory Committee for the entire Los Angeles Head Start program. Her involvement led to college training, and she subsequently received a law degree. As Orton stated, "Who can tell what Clara's education and her access to a profession has ultimately saved the American taxpayer?" implying that, in the absence of Head Start, Clara might have required continued public assistance.[18]

Robinson and Choper (1979) interviewed about 90 parents across the country concerning their opinions about how Head Start had affected them. The stories in the report demonstrate the degree to which Head Start provided an opportunity for parents to learn specific skills and work up the career ladder within Head Start and beyond. As one parent commented:

---

[18] Orton, R. E. "Head Start, A Retrospective View: The Founders." In Project Head Start: A Legacy of the War on Poverty, by E. Zigler and J. Valentine. New York: The Free Press, 1979, pp. 129-134.

> I entered the Head Start program as a youth corps worker, as an office trainee. The office director saw something that I didn't see in myself, and she encouraged me to work with the children. ... After I was employed by Head Start as a teacher's aide, I was asked to go and take the high school equivalency examination. The director wouldn't let me stop there, and I went on to Supplementary Training, and now I'm on the sophomore level in college credits. I was one of the first in the State of Alabama to take and pass the CDA, and ... I hope one day to receive my B.A. or B.S.

The Midco study (1972a) on the effects of parent participation also provides a series of anecdotes of parents who attribute improved economic status to Head Start; one of these is presented below.

> In Massachusetts, a wife and mother remarked, "Head Start has changed my life in many positive ways. The process has been slow but is still continuing. Back in 1965, I was hired as a teacher-aide in the Head Start program. ... I am now enrolled in college, working toward a degree in Early Childhood Education. ... The development of me as a whole person can be related most emphatically to Head Start. It is now time for me to move out and afford another parent the numerous opportunities Head Start has provided for me. (pp. 51-52)

The Service Delivery Assessment Study that interviewed 467 parents in 29 sites (HEW, 1977) found:

> The many personal success stories of parents who became actively involved suggest that it is in reality an area of significant program achievement. Parents told of dramatic changes in their lives attributable to Head Start involvement. ... A number of parents who started out as volunteers become aides, cooks, teachers, and even program directors. (pp. 55-56)

Other authors report similar stories among the thousands of Head Start parents (for example, see Zigler, 1979; O'Keefe, 1978). Clearly, Head Start's policy of employing parents in the program has had a profound impact on individual lives.

In addition to the employment opportunities offered to parents via Head Start, the programs provide experiences and activities to parents which can enhance their development of self-confidence and independence, possibly leading to educational achievements and employment. Some parents report that Head Start has assisted them in obtaining advanced education and employment. However, there are few empirical studies to document the type or level of changes families have experienced.

Stubbs (1980) examined the dimensions of parent involvement opportunities provided by Head Start programs and found that a majority of the programs provided training to enable parents to participate in the program as employees and volunteers. Parents were encouraged to attend staff in-service social services training and to participate in health and nutrition-related training sessions. Some of the training provided, such as first aid and emergency treatment and techniques for health observation, has helped parents qualify in other paraprofessional positions.

Torczyner (1974) examined two Head Start programs in Marin County, California. Although the focus of the study was to compare a community-controlled program and a program operated by the school system, his description of the Head Start programs in Marin County included a discussion of employment opportunities. He commented that in many of the Head Start programs, membership on the parent council or board was an avenue for obtaining a job. Between 1968 and 1970, 13 of 15 council members were subsequently employed by the program or obtained positions in similar service agencies.

In the Abt Associates study of Head Start graduates and their peers (1978), families were asked about Head Start's effects on their life situations. Of 656 parents, eight percent reported that Head Start had helped them find a job, and nine percent reported that Head Start had helped them further their educations.

An intensive family development project was implemented in cooperation with Head Start in Bedford-Stuyvesant, New York (Charms and Butts, 1971). The Family Education Project consisted of courses for the adults and a variety of educational activities for all members of the families. All families had children in Head Start. The program included courses and biweekly seminars for the adults; activities involving all members of the families; and special activities for the various age groups within the families--adults, teenagers, and pre-teens. Parents contracted to join the program and agreed to enroll in one or more self-development courses or activities. The courses were job-training programs in secretarial work, barbering, licensed practical nursing, and so forth. Additional biweekly seminars focused on issues relevant to family life, such as consumer education, legal rights, and personal health. Family activities included meetings for parents and arts and crafts for children plus entertainment or trips for all family members. Forty-three families from a possible 101 were selected from the Bedford-Stuyvesant Head Start program. Staff reported that 28 parents became employed as a result of the program, five families removed themselves from welfare rolls, six families moved to better housing, and one couple separated.

Adams (1976), in a study cited previously, found that involvement in Head Start resulted in 11 of the 13 most intensely involved parents in her Wisconsin study being moved from being "on welfare to being off welfare."

Head Start has an economic impact on communities by providing jobs and services to the community. Many of those whom Head Start employs were previously unemployed. The Head Start program also influences the hiring practices of other community agencies. Specifically, program efforts have been associated with increased employment of local persons in paraprofessional roles by public schools and human services agencies.

Head Start also provides parents with valuable opportunities that enhance their economic status. Head Start programs routinely hire parents as staff. Within the programs, there are opportunities for career advancement. The program provides other experiences for parents, such as participation on parent advisory councils and volunteer positions, which contribute to their development of self-confidence and possibly lead to educational achievements and employment.

FACTORS AFFECTING HEAD START IMPACT ON THE COMMUNITY

The Head Start program is associated with changes which have occurred in community institutions. Several researchers have examined factors affecting whether or not Head Start has been involved in these changes. These factors include: characteristics of the Head Start program; the level and type of parent involvement; and the community environment.

Characteristics of the Head Start Program

The differential impact of Head Start on the community often can be explained in terms of program features. The Kirschner (1970) researchers examined several aspects of the program to determine under what conditions change was likely to occur, and the relative significance of the involvement and the change. There appears to be a strong relationship between the visibility of a Head Start program in the community and its impact in the community. In most instances where change was reported, the Head Start program had a high degree of visibility in the community. The visibility was related to or a result of working relationships with other agencies (for example, Head Start had been delegated to another institution to operate the program); or visibility was related to the activities of the Head Start Policy Advisory Committees.

The authors also examined the degree of Head Start involvement in an institutional change and the modification of the change after its inception. The researchers found that the changes associated with high-involvement centers (centers involved in at least four of the seven stages of change) were expanded upon more often than those associated with low-involvement centers, although the difference was not statistically significant.

According to the Kirschner study, the type of delegate agency (e.g., public school, community action agency) operating a Head Start center did not appear to be associated with that center's involvement in change. However, Datta (1971) found differences in the relationship of local education agency (LEA)-operated programs to the community, compared to that of community action agency (CAA)-operated programs. LEA programs were more likely to seek support for Head Start program goals through established agencies and programs, whereas CAA programs relied primarily on a broader base of individual commitment and support. CAA programs were more likely to use community resources, especially those relating to employment training. According to Miller (1978), the institutional characteristics of a Head Start program can affect its use of community resources. She found that even Head Start programs that have a distant central administration benefit from local administering agencies because the latter have access to community resources. In yet another study (HEW, 1977), the authors conclude that the type of Head Start grantee influences the program's role in affecting community change. Specifically, if the grantee is a part of the local political system (e.g., a local government body or school board), Head Start officials are less likely to take a position which may "rock the boat."

Parent Involvement

Previous discussions note the importance of parent involvement in the Head Start program to achieve desired changes. The centers in the 42 communities selected for in-depth study by Kirschner (1970) were classified as high or low in their degree of parent participation. An analysis revealed that Head Start centers with high parent participation also were highly involved in change. Head Start was highly involved in 56 percent of the changes studied when parent participation also was high. When the level of parent participation was low, Head Start was highly involved in the change process in only 26 percent of the cases. These differences were found to be statistically significant. However, the level of parent involvement was not related to Head Start's efforts in encouraging local private citizens to support changes.

Midco's (1970) study of 20 Head Start centers analyzed reported instances of institutional change according to parent participation in four center groups:

- HiHi-- Parent involvement as decisionmakers and learners was high,
- HiLo-- High decisionmaking/low learner,
- LoHi-- Low decisionmaking/high learner,
- LoLo-- Low decisionmaking/low learner

The number of institutional changes related to parent involvement was highest, according to the parents queried, in the centers with high parent involvement in decisionmaking and in learning. Further, the significance and importance of the changes seemed to be greater in those centers where parents were involved in decisionmaking roles rather than learning roles. Centers which involved parents in decisionmaking activities, rather than learning activities, would be more likely to initiate change and seek solutions to problems.

Parents who were involved in both roles (HiHi centers) assumed a more visible and independent position in the change process. For example, they needed less support from program staff and were more likely to produce solutions directly, rather than through committees. Overall, extensive parent involvement in Head Start was found to be related to involvement of parents at all stages of institutional change.

Chertow (1969), in a study of four programs--two rural and two urban--examined the effect of rural/urban characteristics on Head Start performance. She found that the distance and isolation associated with rural areas limited the extent of parent participation in the program. This logically also would affect parents' roles in bringing about community change. Further, the lack of participation would affect Head Start's potential for affecting change because Head Start would not have the benefit of actively involved parents.

Community Environment

The community environment and resources are important considerations influencing Head Start's involvement in change. Kirschner (1970) identified the importance of the availability of Federal and State funds that ultimately enable the institution to carry out the change. Most survey respondents commented that many changes would not have occurred without financial help from outside the community. Midco (1972a) researchers also identified State and Federal financial support as crucial to implementing change because it provided a support base and a climate conducive to bringing about change.

The political environment of the community is another factor influencing the potential for change. At the time Head Start was involved in many of the reported changes, so were other poverty, education, and civil rights groups. The positive or negative attitudes engendered by these groups in the community affected Head Start's role in the change process. The following example, from the Kirschner (1970) study, reveals Head Start's involvement during a period of potential violence:

> Fear of race riots motivated the school system to seek ways of maintaining peace in this northeastern city ... community leaders met with Head Start and antipoverty program leaders to discuss ways of meeting the needs of the poor. As a result, remedial programs and free lunch programs were developed for ghetto school children; black social workers and aides were hired to work with ghetto families. (p. 134)

The authors concluded that community civil rights activities were partially responsible for changes in which Head Start was involved.

The HEW (1977) study reported the significance of the community political climate in affecting Head Start's participation in local and State issues. In some of the Southeastern states, strong racial biases discouraged Head Start's engaging in community activism or advocating change. The authors also cited other examples of political factors affecting Head Start's role. One such anecdote relates to a program in a Northern state where the governor did not support the initial Head Start grant application. The program director indicated that it was in the best interest of the program to submerge their advocacy instincts and "keep a low profile."

A different perspective of Head Start's position in the South was described by Reginald Lourie, one of the program's founders. Based on programs he visited in the Southeast, he commented on the important role Head Start played in promoting collaboration across socioeconomic lines and breaking down existing patterns of segregation.

> Head Start had special value to the Community Action Programs because the established business and social community would agree to join with the poverty-level workers in developing programs for children, whereas they would avoid any other type of collaborative community involvement. Thus, Head Start became the foundation for community action upon which other programs were slowly built. (p. 99)[19]

In summary, Head Start's involvement in change is affected by programmatic and environmental factors. The visibility of the Head Start program and level of program involvement affect the level and type of institutional change. It is unclear whether the type of agency operating the program affects the type of change occurring. Programs which are involved in different stages of the change process are more likely to produce more significant and viable changes. High parent participation is positively related to the number of changes reported and the magnitude of the changes.

The community political environment also affects Head Start's role. Communities where civil rights activities are conspicuous are more likely to be conducive to change. Yet, in those communities where conservative political leaders preside or where racial prejudices are evident, Head Start involvement in community advocacy is impeded.

SUMMARY

The Head Start program has assumed a position, along with other local educational and human services agencies, as a provider and advocate for the needs of young children and their families. The efforts of Head Start include not only preschool education but also family social services, health services, medical screening and referral services, counseling, and information and referral services. As an advocate for its clients, Head Start interacts with other organizations in the community to encourage more responsive service delivery to the disadvantaged. Because of Head Start's position in the community as educator and service provider, it has the opportunity to encourage needed changes in the community educational and human services institutions.

---

[19] Valentine, J. "Head Start, A Retrospective View: The Founders, Reginald S. Lourie." In Project Head Start: A Legacy of the War on Poverty, by E. Zigler and J. Valentine. New York: The Free Press, pp. 97-102.

Overall, research on institutional changes and increased parent participation in the community is sparse. The available data suggest strongly that Head Start has caused major changes in local institutions--yet, it is not possible to estimate the extent or intensity of the changes.

The following paragraphs summarize findings with respect to Head Start's influence on the educational system, the delivery of health and social services, parental participation in the community, and the economic base of the community.

Education

- Head Start programs maintain close working relationships with local public schools as evidenced by the programs' use of school resources, joint staff training, and cooperative policy statements.
- Some Head Start program concepts and practices have been transferred to some public school systems, including such practices as use of paraprofessionals, increased parent involvement, adoption of culturally responsive curricula, establishment of programs for younger children, and comprehensive services to meet entire family needs.
- Head Start contributes to changing local educational institutions by setting an example, providing training and technical assistance, and promoting an awareness of the needs of the poor.
- Head Start provides parents with educational opportunities and encouragement to pursue educational endeavors.

Health and Social Services

- Head Start provides or arranges for a wide range of health and social services for children and their families.
- Head Start programs provide referral services to, and serve as advocates for, their participants and the low-income community at large.
- Head Start has contributed to changes in community social services and health institutions. Most changes occur in the area of mental health services, specifically in the establishment of new clinics, more comprehensive services, and increased agency resources.
- Head Start has created a demand for services by encouraging parents to use resources, by increasing agencies' awareness of the needs of the poor, and by actively supporting agencies' newly established programs.

Community Involvement

- Increased participation of the poor as decisionmakers has stimulated many of the changes in educational, social, and health institutions.

- Head Start provides parents an opportunity to develop their skills in community organization, leadership and decision-making. The extent of Head Start's impact on increasing the involvement of current parents, former parents, and other low-income residents is unclear because of the lack of data documenting the involvement.

Economic Base

- The Head Start program affects the economic base of communities by providing jobs and services to communities.

Factors Affecting Head Start Impact

- There appears to be a strong relationship between the visibility of a Head Start program and its effect on community institutions. In most instances, where changes were reported, the Head Start program has had a high degree of local visibility.
- It is unclear whether the type of agency operating the Head Start program is related to whether changes occur in community institutions.
- The positive or negative attitudes engendered by other community groups advocating for change often facilitate Head Start's role in the change process.

CONCLUSIONS

The Head Start program provides and advocates for educational and human services for young children and their families. The program has been associated with changes in the local educational system and community social and health institutions. Changes have resulted from the efforts and activities of the program itself, program staff, and Head Start parents. Head Start has been involved in the change process from inception by creating an environment conducive to change, through implementation, and by supporting the execution of changes.

Head Start is an integral part of many community educational systems. Although only 20 percent of the programs are operated by public schools, many Head Start programs maintain close working relationships with local public school systems. This is illustrated by the high level of program utilization of school resources, joint Head Start and public school staff meetings, and policy statements that pledge cooperation between the school system and Head Start.

A number of Head Start program concepts and practices have been transferred to the public school system. These include the use of paraprofessionals in the classrooms; increased parent participation as staff, volunteers, and decisionmakers; adoption of curricula and teaching practices which are sensitive to the needs of poor children; establishment of programs or hiring staff, such as adult vocational education programs or employing social workers, to meet the needs of the entire family; and establishment of programs for younger children, such as prekindergarten programs. Head Start's involvement in bringing about these changes focuses primarily on: setting an example whereby others would observe the efforts and replicate; staff providing training and technical assistance to school systems; and staff and parents participating in school organizations to promote awareness of the educational needs of the poor. Head Start also provides parents with educational opportunities and encouragement to pursue educational endeavors.

Head Start also has contributed to changes in community social services and health institutions. Head Start provides or arranges for a wide range of health and social services for children and their families. Head Start programs provide families with assistance in areas such as transportation, food and housing, and family counseling. Most Head Start programs develop and disseminate to parents a community resources list. The programs refer families to community agencies to assist with family needs, and families use the services.

Head Start's role in the community's human services system extends beyond meeting the needs of Head Start families. Head Start staff join or help form community organizations to increase awareness of the needs of the low-income population. Head Start programs also advocate for issues affecting their participants and the low-income community at large. The program is an informational and referral resource for all community residents; in one study, half of the programs reported that non-Head Start families were the primary recipients of Head Start's information and referral activities.

Only two studies examined in depth how Head Start has brought about changes in community social and health institutions, but the research indicates that Head Start has a positive impact on these institutions. Most changes occur in the area of mental health services, specifically the establishment of new clinics, more comprehensive services, and increased program resources. Program efforts are designed to encourage increased, more comprehensive services to meet the needs of the poor. Head Start has created a demand for services by encouraging parents to use resources, by increasing agencies' awareness of the needs of the poor, and by actively supporting agencies' newly established programs. Similar to Head Start's involvement in the educational system, the program, the staff, and parents all are involved in activities associated with effecting desired changes.

Increased participation of the poor as decisionmakers has encouraged many of the changes in educational, social, and health institutions. Head Start provides parents an opportunity to develop their skills in community organization, leadership, and decisionmaking. There is some evidence to suggest that parents develop these skills through participation on Parent Advisory Committees and then reinvest their time and efforts in other community organizations. The only direct inquiry into Head Start's impact on parent involvement indicates that parents most involved in Head Start were involved in their communities prior to their Head Start involvement. Head Start parents' participation in the community is evidenced by their active and vocal support and lobbying efforts on behalf of the program.

Two studies document the increase in the participation of Head Start parents and other low-income individuals in local institutions, primarily educational institutions. Unfortunately, most of the data are anecdotal so Head Start's impact on increasing the involvement of current parents, former parents, and other low-income residents is unclear.

The Head Start program affects the economic base of communities by providing jobs and services to communities. More than half of the individuals employed by Head Start are minorities. There is evidence that Head Start helps some parents obtain jobs in non-Head Start positions. Some of those whom Head Start employs were previously unemployed. About one-third of the Head Start staff are parents. Head Start's impact on other community institutions often increases the employment of individuals, especially in paraprofessional positions. In other instances, Head Start's demand for increased and more comprehensive social and health services has increased employment at other community agencies.

The extent and ways Head Start affects community institutions, the participation of low-income and minority families in these institutions, and the economic base of communities are affected by programmatic and environmental factors. There appears to be a strong relationship between the visibility of a Head Start program in the community and its effect on community institutions. In most instances where changes were reported, the Head Start program has had a high degree of local visibility. Further, the degree of Head Start involvement in an institutional change has affected the modification of the change after its inception. It is unclear whether the type of agency operating the Head Start program is related to the changes.

The level of parent involvement in the program is related to the program's role in effecting change. Head Start centers with high parent participation are highly involved in effecting community institutional changes.

Community environment and resources influence Head Start's involvement in change. The availability of State and Federal funds has enabled institutions to implement changes. The political environment also is an important consideration. During the late sixties and early seventies, the civil rights movement and poverty and educational organizations were advocating for changes similar to those desired by Head Start. The positive or negative attitudes engendered by these community groups often facilitated Head Start's role in the change process.

To summarize, Head Start has been associated with changes in community institutions. These changes usually result in increased and more comprehensive service delivery to the poor and in more responsive educational programs. Many of these changes have resulted because of Head Start parent involvement. Moreover, parents have benefited economically and educationally, and these benefits have translated into more active community involvement. However, the research on the institutional changes and increased parent participation in the community is sparse. Further, the available studies have inadequate designs which preclude attributing changes directly to the program. The abundance of case-study and anecdotal findings suggests strongly that Head Start has caused major changes in local institutions--yet it is not possible to estimate the extent or intensity of the changes.

[illegible] Head Start [illegible] involvement of [illegible]

[illegible] Head Start are minorities. There is evidence that Head Start [illegible]

[illegible] one way Head Start affects community institutions, the par- [illegible]

[illegible] the Head Start program be related to the changes.

[illegible]

[illegible] strongly that Head Start has caused major changes in local institutions. Yet it is not possible to [illegible] the extent or [illegible] of the changes [illegible]

APPENDIX A

LIST OF DATA BASES SEARCHED TO COMPILE HEAD START DATA BASE

The primary data source for the Head Start Evaluation, Synthesis and Utilization Project has been the Education Resources Information Center (ERIC) system. However, other data bases also were carefully searched, including:

- AGRICOLA, Dept. of Agriculture Database;
- BBIP, Books-In-Print Database;
- BOOK, Books Information Database;
- DISS, Dissertation Abstracts;
- ECER, Exceptional Child Database;
- GPOM, Monthly Catalog of U.S. Government Publications;
- IHSP, State Publications Index;
- NCMH, Mental Health Clearinghouse;
- NCFR, Family Resources Database;
- NRIC, National Rehabilitation Information Clearinghouse;
- PSYC, Psychological Abstracts;
- SMIE, Smithsonian Science Information Exchange;
- SSCI, Social Science Citation Index;
- ULRI, Ulrich's Index of Periodicals;
- USBE, Universal Serials and Book Exchange;
- MESH, Medical Subject Headings - Medline; and
- SPIF, School Practices Information File.

A manual search of the following libraries also was conducted:

- Department of Health and Human Services;
- Department of Labor; and
- Library of Congress.

APPENDIX B

LIST OF KEY WORDS USED TO INDEX HEAD START LITERATURE

CODING SYSTEMS DEFINITIONS

A. Type of Document

Each document receives one of the following codes to describe the type of information included.

Code	
99	Major Evaluation--Code later.
1	Research--Documents that present descriptive data, and/or research findings. All documents that include data or findings are coded research, even those that also include tests, bibliographies and policy analyses.
2	Research-related--Documents that discuss research plans, methodology, tests, questionnaires and bibliographies, but do not include data or findings.
3	Policy/planning--New analyses, position papers, newspaper articles and speeches that discuss issues related to Head Start. Include those that refer to research but do not present findings of data.
4	Legislation

B. Subject Matter

Each document receives as many of the following codes as needed to describe the topic:

Code	
5	Health--refers to studies of the screening, diagnosis, and treatment of the medical needs of Head Start Children. It includes studies of nutrition, preventive health care including immunization, dental care, and mental health care (including psychological testing and referral services).
6	Community Impact--refers to the effects of Head Start on the neighborhood or community. It includes studies of the relationship of Head Start to other social services, the schools, and other community institutions.
7	Family Impact--refers to studies of both the effect of Head Start on families (e.g., the employment of mothers, the ability of families to care for their children) and the effect of the family structure, behavior patterns, and support on the Head Start program and child performance. It includes studies of parental attitudes and childrearing practices.
8	Handicapped--refers to all studies of Head Start services to handicapped children and of the performance of handicapped children enrolled in Head Start. It includes studies of diagnoses and special services.

9 Home Start--refers not only to studies of the "Home Start" program, but also to studies of other preschool services provided to children and their families at home.

10 Follow-Through--refers to studies of the Follow-Through program (kindergarten through grade 3) services and the performance of children enrolled in Follow-Through.

11 Long-term effects--refers to studies of the effects of Head Start that persist beyond the completion of third grade. It includes studies of school retention, school performance, school placement, as well as subsequent social adjustment.

12 Management--refers to studies of staff training, staffing, program organization and implementation, budgeting, and accounting.

13 Teaching methods--refers to studies of Head Start curriculum content, materials, teaching techniques, program content and structure. It includes the Planned Variation studies.

14 Costs--refers to data that describe the costs of Head Start services and programs, that examine sources of funding and that present cost/benefit evaluations.

15 Parent Participation--refers to studies that explicitly examine the kind and amount of parent participation in Head Start and its effects on child performance or families. Note that it is a required component often referenced, but should be coded only when findings or data are presented. Include studies of parent attitudes.

16 Social/Emotional Development--refers to studies of social adjustment, self-esteem, locus of control, personality, self-concept, attitudes, values and emotional health. It can include studies of school adjustment, delinquent behavior and other forms of social adjustment.

17 Poverty--refers to studies of the economic status and progress of Head Start families and the problems associated with the disadvantaged status of Head Start children.

18 Day Care--refers to services that provide essentially custodial care for preschool children; that is, that do not include the instructional component of Head Start. It should include, however, extended day services provided by Head Start for the children of working parents.

19 Social Behavior--refers to classroom adjustment, play and studies of behavior problems, e.g., hyperactivity, aggressiveness.

20 Services Provided--refers to descriptive information on the type of services provided, the number of children served and their characteristics, etc.

21 Cognitive Development--is a general term used to refer to studies of intellectual growth that either 1) include all three of the specific areas listed in 22, 23 and 24, or 2) are directed at other areas of development such as attention or academic achievement.

22 Cognitive Development - Reading--refers to studies of reading readiness and reading performance.

23 Cognitive Development - Language--refers to studies of written and oral language development and performance. Includes studies of auditory skills.

24 Cognitive Development - I.Q.--refers to studies of aptitude or ability, often recognizable by the tests given--the Stanford-Binet, the Weschler, ...

25 Bilingual--refers to studies of children for whom English is a second language [includes not only Spanish, but many other dialects].

26 Special Population--refers to studies of Head Start services for special population and/or the characteristics and needs of these populations.

C. Form Codes

The folowing indicate form codes:

81 Not in Head Start Library.

82 In Head Start Library in hard cover only.

83 In Head Start Library in microfiche only.

84 In Head Start Library in both hard cover and microfiche.

Code	
1	Research
2	Research-related
3	Policy/planning
4	Legislation
5	Health
6	Community Impact
7	Family Impact
8	Handicapped
9	Home Start
10	Follow-Through
11	Long-term effects
12	Management
13	Teaching methods
14	Costs
15	Parent Participation/Parent Attitudes
16	Social/Emotional Development
17	Poverty
18	Day Care
19	Social Behavior
20	Services Provided
21	Cognitive Development
22	Cognitive Development - Reading
23	Cognitive Development - Language
24	Cognitive Development - I.Q.
25	Bilingual
26	Special Population

APPENDIX C

CODING MANUAL AND FORM

Code

1 Research

2 Research-related

3 Policy/Planning

4 Legislation

5 Health

6 Community Action

7 [illegible]

8 Enrollment

9 [illegible]

10 [illegible]

11 [illegible]

12 [illegible]

13 Objective methods

14 Other

15 [illegible]

16 Social Emotional Development

17 Nutrition

18 Day Care

19 Social Behavior

20 [illegible] Programs

21 Cognitive Development

22 Cognitive Development - Reading

23 Cognitive Development - Language

24 Cognitive Development - I.Q.

25 [illegible]

26 Special Education

U ALBERTA

[illegible]

GENERAL CODING CONVENTIONS

(1) Code with a #2 pencil.

(2) Try to code each document in one sitting. If study is not appropriate for meta-analysis, indicate reason on study cover sheet. Please be explicit and detailed in your explanation.

(3) Use 998 whenever the variable is "not applicable". Use 999 for "impossible to determine" or "missing data." Use zero only as a real number. Every cell in a utilized column of the coding sheet must have data, the "not applicable" code or the "missing data" code.

(4) Be sure to fill in all digits including the leading zeros. Note that all decimal places are precoded on coding format.

(5) Varying types of duration/intensity measures are used; e.g., hours/day, days/week, months/year. In converting from reported data to these measures use: 1 month = 4.3 weeks = 30 days. Note that if converting to or from units/year, the number of months the program operates should be used. For example, if the coding calls for hours per month and the study reports 120 hours a year and a 10-month program, then hours per month = 120/10 = 12. The months per year a program operates is referred to throughout as the "operating year."

(6) Duration coding - If the posttest took place during treatment, duration should be measured from pretest (or beginning of treatment if there is no pretest) to posttest. If posttest administered after treatment, duration should be measured up to treatment termination.

If necessary, make the following assumptions:
"full year" = "operating year" = 9 months
"half/part day" = 4 hours
"full day" = 6 hours

If the variable is an "average," compute the weighted average whenever possible. For instance, if the variable is the average number of home visits, and the document indicates all parents received 3 and 20% received 4 or 5, the weighted average would be computed as follows:

$$\text{weighted average} = \frac{80(3) + 20\left(\frac{4+5}{2}\right)}{100} = 3.3$$

(7) If a variable calls for a mean or median value (such as mean age of subjects) and the range is reported, record the midpoint of the range. If the report says the range was from X_1 to X_4, but most were between X_2 and X_3, record your best estimate of mean age. (If range is 3 to 7, but most are 3 to 5, a reasonable estimate would be about 4.7.) Note that the midpoint of 3 to 5 is midpoint of 3.0 to 5.99 which is 4.5.

(8) All documents reporting analysis of the same data base should be coded as a single "study." A "study" includes, for example, all interim reports, reports on different topics or reports using different analytic perspectives (including secondary analysis). As long as a document reports data on the same group(s) of children, it is part of the same study. Each study has a unique 4-digit ID number. If you are coding a document which seems to be related to another document but is not so identified, see the coding supervisor. She has a notebook of existing documents related to a single study.

(9) Each column of the coding sheet is to be used to code a single comparison. The codable comparisons are: Pre/post or HS vs. no treatment. For a pre/post comparison, G1 = posttest measure and G2 = pretest measure. For a HS vs. no treatment, G1 = HS and G2 = no treatment. When the comparison is pre/post, all the subject characteristics will be the same for G1 and G2.

Also, if groups are different on any coded variable and separate outcomes are provided, code as different comparison groups (e.g., sex, race/ethnicity). If separate groups are used, do not compute total group scores. Examples below:

For pre/post: If both the pretest measures and posttest measures are presented separately by categories in this coding system, there should be two comparison groups. For example,

Boys pre/post
Girls pre/post

You should not have total group pre/post if same outcome measures are used. Also, you will not have girls vs. boys pre or post.

For HS-No-trt: The same principle applies. For example,

HS boys vs. No-trt boys (gain or posttest scores)
HS girls vs. No-trt girls (gain or posttest scores)

The same principle applies to special curriculum or experimental treatments:

If the experimental treatment within the HS program is at least 4 months and at least 1 hour per full day, code as a separate comparison group (also for full year—8 month—at least 1/2 hour per day). For example,

HS with special trt pre/post HS without special trt pre/post

In addition, you will have a comparison group and code HS with special treatment vs. HS without special treatment.

When you have an experimental curriculum treatment within the HS program, it should be coded as an "18" under item "20. Type of Curriculum."

(10) All outcomes for a given comparison must be coded in the same column used to describe the comparison, using additional outcome coding forms as necessary. Each outcome uses a separate card. These are labeled card 010, 020, 030, 040, 050.... The card numbers should match the outcome number shown in item 101--outcome 001, 002, 003, 004....

IDENTIFICATION

(1) Study ID #

Coding convention:
Record Study ID noted on cover sheet.

(2) Type of Document (1 = jrnl, 2 = book, 3 = thesis, 4 = government or contractor publication, 5 = unpublished, 6 = multiple types

Coding convention:
Monographs are nonjournal publications of less than 150 pages and all Government Printing Office publications unless they are journals. Do not code anything printed by the authors' own organization as a monograph or book; these documents should be coded as a 5 (unpublished), but a university press should be considered separate from the university whose name it bears.

If a study has several documents which are of different types, record code "6" (multiple types).

(3) Date of study (68 = 1968, 81 = 1981)

Coding convention:
Record the year the most recent preschool Head Start cohort included in the study completed preschool HS. If reported as a school year (e.g., 1973-74) record the spring semester year (e.g., 74). If data not provided, use the year the first post-treatment document was published using the following conversions:

Type of Publication	Subtract X Years From Publication Date
journal	2 years
book/monograph	2 years
thesis	1 year
unpublished	0 years

(4) Coder ID

Coding convention:
The coder IDs are:
01 = Sherrie Aitken
02 = Harriet Ganson
03 = Adele Harrell
04 = Andrea Shepard
05 = Laura Bonneville
06 = Gregg Jackson
07 = Karl White
08 = Kim Kelly
09 = Mary Dilworth
10 = Stephen Schneider
11 = Gerald Williams
12 = Barbara Barrett
13 = Gretchen Schultze
14 = Ruth Hubbell
15 = Harry Travis
16 = Cathy McConkey
17 = Aurora Martinolich
18 = Chris Estus
19 = Chia Ying Chang
20 = Larry Condelli

(5) Total number of comparisons with effect sizes (two digits)

Coding Convention:
Record total number of comparisons for which effect sizes were computed. Number must match the number of columns filled in on coding sheet.

(6) Number of comparisons - Head Start vs. non-Head Start treatment

Coding Convention:
Record total number of comparisons that will not be coded for effect sizes.

(7) Total number of comparisons - Head Start vs. Head Start

Coding Convention:
Record total number of comparisons; these will not be coded for effect sizes.

(8) Card number

Coding convention:
This item is precoded

(9) Study ID

Coding convention:
Record the study ID in every column in which data will be recorded.

(10) Comparison # (two digits)

Coding convention:
Assign consecutive numbers to each column on the coding sheet in which you record data. If there are two comparisons being coded, the left most column is coded 01 and the next column to the right of it is coded 02.

(11) Basic kind of comparison (one digit)

Coding convention:
1 = One group: Head Start pre- and posttesting

2 = Two groups: Head Start vs. no treatment (it is stated explicitly that the no-treatment group did not participate in a preschool/day care program).

3 = Two groups: Head Start vs. no identifiable treatment

4 = Two groups: Head Start with experimental treatment vs. Head Start control

For Family Analysis:
5 = Two groups: Head Start high parent involvement vs. Head Start low parent involvement

(12) Child and/or parent treatment

Coding convention:
1 = Child only; i.e., the only treatment described is a child directed treatment

2 = Parent and child separately; i.e., both child-directed and parent-directed treatment components are described and the treatments are administered separately. For example, there is a parent education component and a child education component.

3 = Parent and child together; i.e., the described treatment was primarily a simultaneous treatment of parent and child. For example, a home-based program which mother and child are treated together. Code as 3 if the dominant modality was joint treatment even if there was some nonjoint treatment. In the home-based example, code as 3 even if the parent attended a parent education class once a month.

(13) Type of predominant treatment

Coding convention:

1 = Standard Head Start (five days a week)

2 = Nonstandard Head Start (includes only variations in center attendance, home-based, and locally designed options)

3 = Standard Head Start with experimental treatment

4 = Nonstandard Head Start with experimental treatment

5 = Head Start not otherwise specified

6 = Head Start not otherwise specified with experimental treatment

7 = Multiple forms of Head Start (included subjects for more than one of the above listed types of HS)

8 = Multiple forms of Head Start with experimental treatment

If HS is described as five days a week and not identified as a 2 or 3, assume it is standard Head Start.

(14) Type of nonstandard HS or experimental HS treatment (three digits)

Coding convention:
998 = Not applicable unless item number 13 is coded 2 or 4
1 = Variations in center attendance
2 = Home-based
3 = Locally designed options
4 = Planned Variation
5 = Other (specify on coding sheet)

(15) **Type of organization providing educational treatment (three digits)**

Coding convention:
1 = public school (or school system)
2 = private school (or school system)
3 = community action program (CAP or CAA)
4 = private/public nonprofit (e.g., churches, universities)
5 = local government
6 = multiple organizational types; i.e., the "treatment group" includes multiple programs which encompass more than one type of operating organization
7 = other (specify on coding sheet)

This item refers to the educational component of the treatment not to health or other human services which could be provided by a separate organization.

(16) **Community (1 = urban/suburban, 2 = rural, 3 = combined) (three digits)**

Coding convention:
Code the type of community served by the studied treatment. Code 3 if the treatment group comes from programs serving both urban/suburban and rural communities.

(17) **Region (HHS region codes) (three digits)**

Coding convention:
1 = CT, ME, MA, NH, RI, VT
2 = NJ, NY, Puerto Rico, Virgin Islands
3 = DE, DC, MD, PA, VA, WV
4 = AL, FL, GA, KY, MS, NC, SC, TN
5 = IL, IN, MI, MN, OH, WI
6 = AR, LA, NM, OK, TX
7 = IA, KS, MO, NE
8 = CO, MT, ND, SD, UT, WY
9 = AZ, CA, Guam, HI, NV, Pacific Trust Territories, American Samoa
10 = AK, ID, OR, WA
11 = Indian
12 = migrant
13 = multiple regions

(18) **Sample comes from (1 = ssl, 2 = state, 3 = reg, 4 = nat) (three digits)**

Coding convention:
1 = substate locality
2 = programs throughout a single state
3 = programs throughout a two-or-more state region
4 = programs throughout the nation

CHILD TREATMENT

(19) **Center- or home-based predominant treatment**

Coding convention:
1 = center-based
2 = home-based
3 = both

(20) **Type of curriculum used (three digits)**

Coding convention:
01 = Bank street humanistic model
02 = Weikart cognitive model
03 = Bereiter-Engelman; Engelman-Becker academically oriented model
04 = Enabler humanistic model
05 = new nursery school responsive model, Far West Lab, REC
06 = open education (English infant schools; pragmatic action-oriented), EDC, TEEM
07 = Bushell behavior analysis model
08 = bilingual
09 = DARCEE
10 = Montessori
11 = regular/traditional
12 = general behavioristic
13 = general cognitive, Ira Gordon
14 = general humanstic
15 = general experimental
16 = multiple forms of curriculum - Enabler
17 = other (specify on coding sheet)
18 = special curriculum or experimental treatment

(21) **Average number of days per week children received predominant treatment (Not applicable if home-based. If home-based and center-based combined, record combined duration for center-based component only.)**

(0 _._)

(22) Average number of hours per day children received Head Start

(_ _ _)

Coding convention:
Code actual number of hours of treatment per day when available (directly or through computation). If schedule varies (e.g., 3 hours M, W, F and 4 hours T), record the average hours per day (in this example, 13/4 = 3.2 = 03.2). If home-based and center-based combined, record combined duration.

(23) Were hours per day estimated or reported in study? (three digits)

1 = reported
2 = estimated

(24) Average number of months per year children received predominant treatment. Use carat for decimal.

(_ _._)

(25) Were months per year estimated or reported? (three digits)

1 = reported
2 = estimated

(26) Total number of hours children received predominant treatment. If more than 1,000 put 997 and write correct number on sheet.

(_ _ _)

(27) Were hours estimated or reported? (three digits)

1 = reported
2 = estimated

(28) Average total number of months children received predominant treatment

(_ _._)

Coding convention:
Record total number of months, not months per year as above.

(29) Were months estimated or reported? (three digits)

1 = reported
2 = estimated

(30) Total number of years children received predominant treatment

(0 _._)

Coding convention:
A year is defined as an operating school year.

(31) Average number of children per classroom or instructional group

(_ _ _)

Coding convention:
Not applicable for home-based programs. Note on coding format how number was arrived at.

(32) Average number of child/instructional staff ratio

(_ _ _)

Coding convention:
By "# instructional staff" we mean those generally in the classroom or instructional group while it is in session. Not applicable for home-based programs.

(33) Card number precoded.

(34) Study ID.

(35) Comparison number.

(36) Average number of child/adult classroom ratio

(_ _ _)

Coding convention:
This includes instructional staff and Head Start volunteers and parents.

(37) Average number of teachers per classroom

(_ _ _)

Coding convention:
Note how number was arrived at on coding sheet.

(38) Average number of adults per classroom

(_ _ _)

Coding convention:
Note how number was arrived at on coding sheet.

(39) Percent of all predominant treatment instructional staff with CDA credential

(_ _ _)

(40) Percent of all predominant treatment instructional staff who are certified teachers (e.g., state certification or nondegree certificate)

(_ _ _)

(41) Percent of all predominant treatment instructional staff who have a degree in early childhood education

(_ _ _)

Coding convention:
This includes associate as well as B.S. or higher degrees. Not all with such degrees need be certified, and not all the certified teachers need have degrees in early childhood education.

(42) Percent predominant treatment instructional staff who are minority

(_ _ _)

Coding convention:
If necessary, use data on all program staff as a surrogate.

(43) Average number of home visits per family per operating year

(_ _ _)

(44) Frequency of home visits (three digits)

1 = weekly
2 = biweekly
3 = monthly
4 = other (specify on coding sheet) or "many"

(45) Cost per child of predominant treatment (five digits)

Coding convention:
This item refers to total unit cost (i.e., direct service cost + administration/overhead cost). If necessary, calculate by dividing total cost by number of children in treatment program. Round to nearest dollar.

SUPPLEMENTAL SERVICES

(46) Special health services supplemental to regular Head Start services; i.e., an experimental program (three digits)

1 = yes
2 = no

(47) Special staff training supplemental to regular Head Start services (three digits)

1 = yes
2 = no

(48) Parent treatment (three digits)

Coding convention:
1 = yes, at least 50% of the children had at least one parent who received some type of treatment other than home-based treatment.
2 = no

(49) Focus of parent treatment (three digits). Write description of parent involvement and how high or low parent involvement was determined on yellow sheet.

Coding convention:
1 = parenting skills
2 = general education and/or skill training
3 = training parents to be Head Start classroom staff
4 = other (specify on coding sheet)
998 = if item 48 = 2

(50) Number of parent training sessions per year (three digits)

(_ _ _)

Coding convention:
998 = if item 48 = 2

SUBJECT CHARACTERISTICS

(51) Median or mean age of children (on initiation of treatment; in years rounded to one decimal place) (three digits)

(0 _._)

Coding convention:
Convert months to decimal places as follows:

months	years
1	.1
2	.2
3	.3
4	.3
5	.4
6	.5
7	.6
8	.7
9	.8
10	.8
11	.9

(52) Median or mean IQ of children (on initiation of treatment) (three digits) Note: pretest IQ scores

(53) Name of IQ test (three digits)

Coding convention:
1 = Stanford-Binet Intelligence Test
2 = Peabody Picture Vocabulary Test
3 = Other (specify ______________________)

(54) Card Number - precoded

(55) Study ID

(56) Comparison number

(57) Percent Minority

(_ _ _)

(58) Percent male

(_ _ _)

(59) Median or mean years of schooling completed by mother (upon initiation of treatment; high school = 12 years) (three digits)

(0 _ _)

Coding convention:
If only father's or parent's years of schooling provided, record this number and make a note on the coding format of the substitution.

(60) Median or mean number of people in the family or household

(0 _ _)

(61) Median or mean number of children in family or household (persons under the age of 19)

(0 _ _)

(62) Percent from one-parent households

(_ _ _)

(63) Reported general description of average SES (1 = low, 2 = middle) (Head start always = 1) (three digits)

(64) Percent from families with at least one parent in household employed (upon initiation of treatment)

(_ _ _)

(65) Percent from families where both parents employed

(_ _ _)

STUDY DESIGN

(66) Sampling procedure (three digits)

Coding convention:
Ignoring how subjects were assigned to G1 or G2, how were the subjects selected to be part of the sample?

1 = statistical sample
2 = convenience sample

(67) Assignment to groups (three digits)

Coding convention:
1 = no assignment (i.e., group is pre/post)
2 - random
3 = matching (on more than one variable)
4 = convenience
5 = self-selection (parent involvement coding only)

(68) Regression effects bias

Coding convention:
1 = Not plausible threat to internal validity
2 = Potential minor problem in attributing the observed effect to treatment; by itself, not likely to account for substantial amount of the observed results
3 = Very plausible alternative explanation which could account for substantial amount of the observed results
4 = Very plausible alternative explanation which by itself could explain most or all of the observed results

Statistical Regression is the inevitable tendency of persons whose scores are extreme (high above or far below the mean) on Measurement A to be less extreme (less high above or less far below the mean) on Measurement B. This phenomenon of regression toward the "mean" will be observed whenever Measurements A and B are not perfectly correlated, which for all practical purposes is always. For example, this will be a threat if children G1 were selected on the basis of an extrame score which was used simulataenously as a pretest and there was not a G2 or the G2 was not selected on the basis of the same extreme scores. For single group designs (pre/post), if the group was selected because it deviated from the mean on the pretest, there is likely to be major regression bias.

(69) Selection bias

Coding conventions:

1 = Not plausible threat to internal validity

2 = Potential minor problem in attributing the observed effect to treatment; by itself, not likely to account for substantial amount of the observed results

3 = Very plausible alternative explanation which could account for substantial amount of the observed results

4 = Very plausible alternative explanation which by itself could explain most or all of the observed results

Selection Bias occurs when subjects in G1 and G2 were selected on different bases. Definition: All of those factors which conspire to make G1 and G2 unequal at the outset of an experiment in ways which cannot be properly taken into account in the analysis of the data. It appears that in almost all instances the only feasible way to completely guard against selection bias is by employing the random assignment of persons or classrooms to treatments and then using statistical analyses of the final data which are based on the randomization procedure. Quasi-experimental designs will almost always have some selection bias. A selection bias favoring G1 is one where subjects were selected for it (or selected themselves for it) in a manner such that they could be expected to score higher on the posttest than G2 even if there is no treatment effect.

(70) Attrition bias

Coding conventions:

1 = Not plausible threat to internal validity

2 = Potential minor problem in attributing the observed effect to treatment; by itself, not likely to account for substantial amount of the observed results

3 = Very plausible alternative explanation which could account for substantial amount of the observed results

4 = Very plausible alternative explanation which by itself could explain most or all of the observed results

Experimental Mortality is the differential loss or "dropping out" of persons from two or more groups being compared in an experiment. If attrition is greater under curriculum A than curriculum B, a comparison of A and B at the end of one school year might be biased in that the students completing A would be brighter, on the average, than those completing B. This is true simply because the slower students were fatalities under curriculum A.

(71) Testing bias

Coding convention:
1 = Not plausible threat to internal validity
2 = Potential minor problem in attributing the observed effect to treatment; by itself, not likely to account for substantial amount of the observed results
3 = Very plausible alternative explanation which could account for substantial amount of the observed results
4 = Very plausible alternative explanation which, by itself, could explain most or all of the observed results

The effects of taking a test may affect the outcomes of subsequent administration of the same or a highly related test. Taking some cognitive ability tests may increase your score by several points on a second administration of the same test or a parallel form of it. For example this would be a threat if children were tested repeatedly with the same test instrument and no control group was included in the design.

(72) Instrumentation bias

Coding convention:
1 = Not plausible threat to internal validity
2 = Potential minor problem in attributing the observed effect to treatment; by itself, not likely to account for substantial amount of the observed results
3 = Very plausible alternative explanation which could account for substantial amount of the observed results
4 = Very plausible alternative explanation which by itself could explain most or all of the observed results

Unreliability in the instruments may produce changes on the scores over time which are mistaken as treatment effects and produce instrumentation bias. For example, judges observing and rating some performance may be more lenient from time 1 to time 2.

(73) Overall index of quality of study (1 = lowest quality, 5 = highest)

Coding convention:
Use the chart on the following page as a rough guide, but use your best judgment.

GENERAL INDEX OF VALIDITY

RATINGS: 5	4	3	2	1
o well executed true experimental designs	o true experimental designs with minor problems	o quasi experimental designs with minor problems	o pre/post designs with minor to moderate problems	o any quasi experimental design with major problems
	o well executed o quasi experimental designs	o well executed o pre/post designs	o quasi experimental with moderate problems	o pre/post designs with major problems
		o true experimental with moderate problems	o true experimental with major problems	

(74) Total number of outcomes (three digits)

(75) Card Number

Coding convention:
This item is precoded.

OUTCOMES

(76) Study ID

(77) Comparison number (two digits)

(78) Outcome number (three digits)

(79) Sample size (five digits)

Coding convention:
Record the number (N) on which the effect size is based

(80) Effect size (ES)

(four digits: (± _._ _)

Coding convention:
Express as positive or negative
If you arrive at an ES above "2," recalculate

When there are data available allowing you to compute an ES in more than one way, compute it using the data with the lowest code for Item 81, "Data from which ES was calculated." Check with coding supervisor if covariance adjusted means are provided.

The following formulae are listed in order of preference, according to Item 81.

When "0.5" - round up.

If multiple measures of the same domain are recorded, the following conventions should be followed. If subscales for the same domain are reported, aggregate it into one score, or use the total score if reported. The general rule is to aggregate to the most specific domain. For example, if the California Achievement Test was used:

- o If only total score is reported, record a single effect size under "general achievement"
- o If math and reading subscales are reported, record two effect sizes, one under math achievement and one under reading achievement
- o Do not record a total score and the subscale scores.

To aggregate subscale scores, calculate effect sizes for subscales and average. If different standardized tests of the same domain are used, code all tests for which effect sizes can be calculated (e.g., if two standardized IQ tests were administered and reported, code both test results). If a standardized and nonstandardized test are used, code only the standardized test. If data have been reanalyzed and different results reported, check with coding supervisor about which results to code. This last possibility will occur most frequently when a secondary analysis has been conducted.

(1) Age normed scores.

This option is appropriate when recording effect sizes for a pre/post comparison.

$$\frac{\text{Study Posttest score} - \text{normed } \overline{X} \text{ at age of posttest}}{\text{normed Sd at age of posttest}} - \frac{\text{pretest score} - \text{Normed } \overline{X} \text{ at age of pretest}}{\text{normed Sd at age of pretest}}$$

A list of national norms and standard deviations will be provided and attached to your manual. When using normed test scores, if your age range doesn't match normed test ranges, interpolate.

(2), (4) a) General convention.

$$\frac{\overline{X}_1 - \overline{X}_2}{Sd_2}$$

$\overline{X}_1$ = mean/group 1 (HS or posttest)

$\overline{X}_2$ = mean/group 2 (no treatment or pretest)

Sd= standard deviation/group 2

b) When to use gain scores.

When the comparison is Head Start vs. no treatment and pre- and post-test scores are recorded for G1 and G2 you should use gain scores rather than the general convention above if: (1) the pretest scores for G1 and G2 are very different, or (2) G1 and G2 are very different (e.g., lower-lower class HS vs. upper lower-class control). Note: Do not use gain scores when recording a pre/post comparison; use age normed scores.

(3)

$$\frac{\overline{X}_1 - \overline{X}_2}{Sd_{pooled}}$$

This will be used when the article only provides the pooled standard deviation.

(5) t ratio

$$ES = t\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$$

F ratio

$$ES = 2\sqrt{\frac{F}{n_1 + n_2}}$$

(6) t ratio from matched pairs

$$ES = t_d\sqrt{\frac{2}{n}(1-r_{xy}^{2})}$$

See coding supervisor regarding how to figure r_{xy}

x = dep.
y = covariate

F ratio from repeated measures

$$ES = 2\sqrt{\frac{F}{n_1 + n_2}}$$

FOR ANY OTHER TYPES OF DATA (i.e., ITEMS 7-13 ON VARIABLE 104) SEE CODING SUPERVISOR FOR INSTRUCTIONS

(7), (8) Convert the probability level to a t statistic then use (3). Check with coding supervisor because there are problems with "p."

(9), (10) The n-way ANOVA can be collapsed to a one-way ANOVA then proceed as with (5). See coding supervisor for procedure.

(11) See coding supervisor.

(12) We may not compute ES for these so see coding supervisor for decision.

(13) If only a Chi square and no marginal data are given, an ES cannot be computed. See coding supervisor for final decision.

(14) See coding supervisor.

(81) Data from which ES was calculated

Coding convention:

1 = Nationally normed test national means and Sd provided. This formula is applicable only for one group pre/post designs.

2 = Means and G2 Sd -- Article gave means for G1 and G2 and a standard deviation for G2 from which ES was calculated.

3 = Means and pooled Sd - Article gave means for G1 and G2 and a pooled standard deviation from which the ES was calculated.

4 = Means and published Sd - Article gave means for G1 and G2 and the Sd from Studies Standardizing the outcome test or Sd identified on list of tests.

5 = t ratio or/F ratio from one-way ANCOVA - Article gave a t or F for one way ANOVA, from which ES was calculated.

6 = t ratio from matched pairs t test or F ratio from repeated measures or other complex ANOVA design.

7 = Nonparametric test statistic except the chi squared.

8 = Probability estimate for t test or one-way ANOVA - Article gave a p-value from which a t or F was calculated and then the ES.

9 = Source of variance estimate for n-way ANOVA - Article gave a source of variance table for n-way ANOVA from which ES was calculated.

10 = Source of variance table from ANOVA, repeated measures, etc.

11 = Regression lines

12 = Proportions

13 = Chi square (only if a cross tab table and marginals provided)

14 = Other (specify on coding sheet)

(82) Scale of mean difference.

Coding convention:
Code only if Item 81 is coded 1, 2, 3, or 4; otherwise code as other.

1 = Final status measure - Raw or standard scores were used to calculate means.

2 = Raw gain score - Difference between pretest and posttest scores were used to calculate means.

3 = Residual gain score - Pretest and posttest scores were correlated, the correlation was used to predict posttest score from pretest score, and the difference between the predicted and obtained posttest scores were used to calculate means.

4 = Covariance adjusted scores = Outcome scores were correlated with scores on a covariate and adjusted to represent the outcome scores that would have been obtained if all subjects had obtained the same score on the covariate.

5 = other

(83) Domain of cognitive outcomes

Coding convention:
01 = IQ/problem solving
02 = reading readiness
03 = math readiness
04 = general school readiness
05 = reading achievement
06 = math achievement
07 = language achievement
08 = general school achievement
09 = concept formation (like Piagetian tasks)
10 = grade retention
11 = special/remedial education placements
12 = other (specify on coding sheet)

See list of tests on next page.

NAME OF TEST	TYPE OF TEST	OUTCOME DOMAIN
Stanford-Binet Intelligence Scale	IQ	01
Peabody Picture Vocabulary Test	IQ	01
Metropolitan Readiness Test	School Readiness	04
Developmental Test of Visual Perception		
Illinois Test of Psycholinguistic Abilities	Language Achievement	07
Detroit Tests of Learning Aptitude (motor speed and precision test and visual attention for objects)		
Letter Recognition (identifying typewriter letters)	Reading Readiness	02
Merrill-Palmer Scale of Mental Tests	IQ	
Pictorial Test of Intelligence	IQ	01
Wechsler Preschool and Primary Scale of Intelligence	IQ	01
Basic Concept Inventory	School Readiness	04
Cooperative Preschool Inventory	School Readiness	04
Stanford Primary Level Achievement Test	Achievement	08
Ravens Coloured Progressive Matrices	IQ (Problem Solving)	01
Basic Concept Inventory	Concept Formation	09
Eight Block Sorting Test	Concept Formation	09
Picture Story Language Test	Concept Formation	09
Wide Range Achievement Test	Achievement	08
Caldwell Preschool Inventory	School Readiness	04
Metropolitan Achievement Test-Primer	Reading/Math Achievement (listening for sounds)	08
Learning Accomplishment Profile		
Metropolitan Achievement Test-Primary I, II, Elementary	Achievement	08
Denver Developmental Test	Language	07

(83) Domain of Socioemotional Outcomes

Coding Convention

21 - Self concept, self-esteem

22 - Social behavior, social development, social maturity

23 - General personal behavior; personal/social development

24 - Task/test orientation, achievement motivation

25 - Anxiety

26 - Curiosity

27 - Innovative/creative behavior; fantasy

28 - Reflectivity/impulsivity including motor impulsivity

29 - Field independence

30 - Distractability/Persistence

31 - Tolerance

32 - General Autonomy

33 - Extroversion

See following list of tests.

Name of Test or Scale	Outcome Domain	
Absence of teacher's negative comments on social skills	Social	22
Anxiety Scale	Anxiety	25
Children's Attitudinal Range Indicator (CARI)	Social	22
Children's Projective Pictures on Self Concept	Self Concept	21
Children's Self Concept Index (CSCI)	Self Concept	21
Cincinnati Autonomy Battery (CATB)	General Autonomy	32

Name of Test or Scale	Outcome Domain	
Classroom Behavior Inventory (CBI)	Achievement Motivation	24
Curiosity Box	Curiosity	26
Denver Developmental Test--Personal/Social	Personal/Social	23
Detroit Developmental Profile		
Home Adjustment	Personal development	23
Temperament	Personel development	23
Work Habits	Achievement Motivation	24
Social Behavior	Social behavior	22
Reality Orientation	General personel	23
Draw A Line Slowly	Impulsivity	28
Dog and Bone	Innovative Behavior	27
Early Childhood Embedded Figures	Field Independence	29
Early Childhood Matching Familiar Figures	Reflectivity	28
Fantasy Related Verbalizations	Innovative	27
Gumpgookies	Achievement Motivation	24
Incidental Learning	Task Orientation	24
Intentional Learning	Task Orientation	24
Kansas Social Interaction Observation Procedure	Social	22
Kindergarten Prognosis (CATB)	Personal/Social	23
Motor Impulse	Reflectivity/Impulsivity	28
Matching Familiar Figures	Reflectivity	28
Pupil Observation Test Orientation	Task Orientation	24
Pupil Observation Sociability	Social Behavior	22
Proportion of time spent in play	Social Behavior	22
Resistance to Distraction	Persistence/Distractability	30

Name of Test or Scale	**Outcome Domain**	
Schaffer Behavior Inventory		
Task Orientation	**Task Orientation**	**24**
Extroversion-Introversion	**Social Behavior**	**22**
Hostility Tolerance	**Tolerance**	**31**
Self Concept Rating Scale	**Self Concept**	**21**
School Perception-Achievement Motivation	**Achievement Motivation**	**24**
Stanford Binet "work"	**Task Orientation**	**24**
Stanford Binet "verbal nonwork"	**Social Behavior**	**22**
Stanford Binet Inventory of Factors Affecting Work Performance	**Achievement Motivation**	**24**
Social Skills - Preschool Attainment Record	**Social**	**22**
Task Competence	**Task Orientation**	**24**
Vineland Social Maturity Scale	**Social Behavior**	**22**

(84) Method of measurement

Coding convention:
1 = standardized test
2 = teacher- or research-made test
3 = scores based on systematic observation
4 = grades, grade retention, special placements

(85) Who administered outcome measurement?

Coding convention:
1 = person providing part or all of treatment
2 = post treatment school personnel
3 = outside researchers or evaluators.
4 = multiple -- some combination of above.

(86) Subsequent treatment (three digits)

Coding convention:
1 = Follow-through
2 = Elementary school without Follow-through
3 = Mixed Follow-through and non-Follow-through
4 = Elementary school with no mention of Follow-through
5 = none

Subsequent treatment is one administered after a predominant treatment but prior to the posttest. Note that if there is more than one posttest (i.e., longitudinal), then there will be more than one pre/post comparison.

(87) Type of special curriculum or experimental treatment (3)

Coding convention:
1 = Curriculum treatment-short (less than 4 months/1 hour day)
2 = Curriculum treatment-long (more than 4 months/1 hour day)
3 = Parent treatment-special
4 = Staff training
5 = Other. Specify

(88) Average number of weeks between start of treatment and administration of the pretest. (_ _)

(89) Number of months between completion of treatment and administration of post-measurement of outcomes. (± _ _ _) (Express as positive or negative.)

(90) Average number of months between administration of pretest and posttest

(_ _ _)

(91) Card Number

(92) Study ID

(93) Comparison Number

(94) Is the curriculum based on a delineated educational or developmental theory within which the teachers can work? (three digits)

1 = yes
2 = yes, but only for sample of comparison group
3 = no

Coding Convention:

Theory must be specifically identified. If curriculum is described as regular/traditional, general cognitive, general experimental, or bilingual without identifying a theory, code 3.

(95) Type of primary theory used (three digits)

01 = Behaviorist
02 = Behavior/Developmental Combination
03 = Piaget
04 = Humanistic
05 = Humanistic/Piaget Combination
06 = Montessori
07 = Multiple theories used
08 = Other (specify on coding sheet)
999 = If item 92 = 2

Coding Convention: See item #20 for type of curriculum; code theory based on designation listed below:

Theory	Curriculum
Behaviorist (01) - also behavior modification, Skinnerian, systematic reinforcement	(03) Becke-Engleman (Univ. Oregon) (07) Bushell Behavior Analysis Program (Univ. Kansas) (12) General Behavior
Behaviorist/Developmental Combination (02)	Responsive Model (Far West Lab, Nimnicht) (05) New Nursery School
Piaget (03)	(02) Weikart Cognitive Model Gordon Parent Education (09) DARCEE
Humanistic (04) - Erikson, Dewey, Maslow, Freud, Psychodynamic	(06) British Infant School EDC - Newton, Mass. (06) Open Schools Tucson Early Education Model (04) Enabler Model (14) General Humanistic
Humanistic/Piaget Combination (05)	(01) Bank Street
Montessori (06)	(10) Montessori

(96) Average number of adults per classroom who are teaching (three digits).

(_ _ _)

Coding Convention:

Note how number was arrived at on coding sheet. See item #38, #37 for average number of adults (teachers) per classroom. Note: teaching is not cleaning the blackboard, pouring juice, etc.

(97) Is "team teaching" identified as an instructional method used in the classroom? (three digits)

1 = yes
2 = no

Coding Convention:

This is to be coded "yes" only if "team teaching" is specifically reported in study.

(98) Is there a focus on individual children as evidenced by individual plans developed for each child. (three digits)

1 = yes
2 = no

Coding Convention:

This item refers to a specific instuctional plan developed for each child. Plan could be based upon child's developmental level, special needs, etc. (e.g., IEP).

(99) Basis of individual plan (three digits)

1 = testing
2 = child consultation/observation
3 = outside consultation (doctor, psychologist)
4 = staff consultation
5 = parent consultation
6 = multiple
7 = other (specify on coding sheet)
999 = if item 96 = 2

Coding Convention:

Code item which best describes basis as reported in the study.

(100) Is there an emphasis on language interaction between teacher and child? (three digits)

1 = yes
2 = yes for sample
3 = no

Coding Convention:

This item refers to a language interaction emphasis in daily activities, not the testing of language achievement alone.

Curricula W/Language as Primary Goal See item #20 for type of curriculum, code based on designation listed below.

Planned Variation
Becker Engelmann (Univ. Oregon) (03)

Bushell Behavior Analysis (Univ. Kansas) (07)
High Scope Weikart Cognitivly Oriented (02)
EDC, Newton, Mass.
Bank Street (01)
Tucson Early Education Model (TEEM) - (Univ. Arizona)
Far West Educational Lab. Responsive Classroom
Gordon Parent Education
Bilingual (08)
Montessori (10)
DARCEE (09)

Curricula W/Language Not Emphasized

Nimnicht Responsive Model New Nursery School (05)

(101) Is "language interaction" specifically identified as a primary goal of curriculum? (three digits)

1 = yes, primary
2 = yes, but only for sample of comparison group secondary
3 = no mention

Coding Convention:

This is to be coded "yes" only if "language interaction" is specifically reported.

(102) Percent of instructional staff who have practical experience in early childhood teaching. (three digits) (_ _ _)

Coding Convention:

More than one year of teaching qualifies as practical experience. Refer to items #39-#41 for instructional staff characteristics.

(103) Average number of years of practical eaperience of instructional staff (three digits).

(_ _ _)

Coding Convention:

Note how number was arrived at on coding sheet.

(104) Percent of instructional staff participating in/attending ongoing training programs (e.g., CDA training (three digits) (_ _ _).

Coding Convention:

This item does not refer to regular inservice programs. See item #47 for supplemental service information.

(105) Type of parent treatment (three digits).

1 = regular Head Start parent treatment
2 = special parent treatment supplemental to (1)

Coding Convention:

If there is no discussion of parent treatment code (999).

All Head Start programs have a required parent involvement objective. See page 58 of Performance Standards for a description of (1). See items #48-#50 for previously coded parent treatment characteristics.

Code (2) only if an outside group provides a special parent treatment supplemental to the regular parent participation (e.g., an outside researcher provides a 12-week training program for Head Start parents.)

(106) Card number precoded.

HEAD START EVALUATION
COGNITIVE OUTCOMES

Meta-Analysis Coding Instrument

DOCUMENT IDENTIFICATION

Author(s) ______________________________

Title ______________________________

1-4						1. STUDY ID (4)
5						2. TYPE OF DOCUMENT (1): 1-journal, 2=book, 3=thesis, 4=government or contractor publication, 5=unpubl., 6=multiple
6-8						3. DATE OF STUDY (2 digit)
9-10						4. CODER ID (2 digit)
11-12						5. TOTAL NUMBER OF COMPARISONS CODED (2 digit)
13-14						6. NUMBER OF COMPARISONS: HS vs. NON-HS (2)
15-16						7. NUMBER OF COMPARISONS: HS vs. HS (2)
17-76	BLANK					BLANK
77-80	0001					8. CARD NUMBER
1-4						9. STUDY ID (4)
5-6						10. COMPARISON NO. (2)
7						11. KIND OF COMPARISON (1) 1=HS pre/post, 2=HS vs no trt, 3=HS vs no indent. trt 4=HS exper. trt vs. HS control

8							12. TREATMENT--CHILD/PARENT (1) 1=Child only, 2=Child/parent separate, 3=Child/parent together
9							13. TYPE OF TREATMENT (1) 1=SHS, 2=NSHS, 3=SHS exp trt, 4=NHS exp trt, 5=HS not otherwise specified, 6=HS not otherwise specified exp trt, 7=Multiple, 8=Multiple exp trt.
10-12							14. NONSTANDARD HS (3) 1-Variations-center attend., 2=Homebased, 3=Locally designed, 4=Planned Variation, 5=Other
13-15							15. TYPE OF ORGANIZATION (3) 1=pub schl, 2=priv schl, 3=CAA, 4=nonprofit, 5=loc. gov't., 6=multiple, 7=other
16-18						G1	16. COMMUNITY (3) 1=Urb/sub, 2=Rur, 3=Comb
19-21						G2	
22-24						G1	17. HHS REGION (3)
25-27						G2	
28-30						G1	18. SAMPLE FROM (3) 1=ss, 2=state, 3=state/reg, 4=nat
1-33						G2	
34							CHILD TREATMENT 19. CENTER/HOME BASED (1) 1=center, 2=home, 3=both
35-37							20. TYPE OF CURRICULUM (3)
38-40							21. DAYS PER WEEK (3) (0_ _ _)
41-43							22. HOURS PER DAY (3) (_ _ _)
44-46							23. REPORTED? (3) 1=reported, 2=estimated
47-49							24. MONTHS PER YEAR (3) (_ _ _)

50-52						25. REPORTED? (3) 1=reported, 2=estimated
53-55						26. NUMBER OF HOURS--TOTAL (3)
56-58						27. REPORTED? (3) 1=reported, 2=estimated
59-61						28. TOTAL MONTHS (3) (_ _ _)
62-64						29. REPORTED? (3) 1=reported, 2=estimated
65-67						30. NUMBER YEARS (3) (0 _ _)
68-70						31. NUMBER OF CHILDREN PER CLASSROOM (3)
71-73						32. CHILD/STAFF RATIO (3)
74-76	BLANK					BLANK
77-80	0002					33. CARD NUMBER
1-4						34. STUDY ID (4)
5-6						35. COMPARISON NUMBER (2)
7-9						36. CHILD/ADULT RATIO (3)
10-12						37. NO. TEACHERS PER CLASSROOM (3)
13-15						38. NO. ADULTS PER CLASSROOM (3)
16-18						39. PERCENT STAFF/CDA (3)
19-21						40. PERCENT STAFF CERTIFIED (3)
22-24						41. PERCENT STAFF EARLY CHILD DEGREE (3)
25-27						42. PERCENT STAFF MINORITY (3)
28-30						43. NUMBER HOME VISITS (3)

31-33							44. FREQUENCY HOME VISITS (3) 1=weekly, 2=bimonthly, 3=monthly, 4=other
34-38							45. COST PER CHILD (5)
							SUPPLEMENTAL SERVICES
39-41							46. HEALTH SERVICES (3) 1=yes, 2=no
42-44							47. STAFF TRAINING (3) 1=yes, 2=no
45-47							48. PARENT TREATMENT (3) 1=yes, 2=no
48-50							49. FOCUS OF PARENT TREATMENT (3) 1=prnt skills, 2=educ. or skill trng, 3=prnts as staff, 4=other
51-53							50. PARENT SESSIONS PER YEAR (3)
							SUBJECT CHARACTERISTICS
54-56						G1	51. AGE OF CHILD (3) (0 _ _)
57-59						G2	
60-62						G1	52. CHILD IQ (3)
63-65						G2	
66-68						G1	53. IQ TEST (3) 1=SB, 2=PPVT, 3=Other ____
60-71						G2	
72-76	BLANK						BLANK
77-80	0003						54. CARD NUMBER
1-4							55. STUDY ID (4)

5-6							56. COMPARISON NO. (2)
7-9						G1	57. PERCENT MINORITY (3)
10-12						G2	
13-15						G1	58. PERCENT MALE (3)
16-18						G2	
19-21						G1	59. MOTHER YRS SCHOOLING (3)
22-24						G2	
25-27						G1	60. NO. PPL FAMILY (3)
28-30						G2	
31-33						G1	61. NO. CHILDREN IN FAMILY (3)
34-36						G2	
37-39						G1	62. PERCENT ONE PARENT (3)
40-42						G2	
43-45						G1	63. AVERAGE SES (3) 1=low, 2=middle
46-48						G2	
49-51						G1	64. PERCENT ONE PARENT EMPLOYED (3)
52-54						G2	
55-57						G1	65. PERCENT BOTH PARENTS EMPLOYED (3)
58-60						G2	

STUDY DESIGN

61-63							66. **SAMPLING PROCEDURE (3)** 1-statistical, 2-convenience
64-66							67. **ASSIGNMENT TO GROUPS (3)** 1=no assignment, 2=random, 3=match, 4=convenience
67							68. **REGRESSION EFFECTS BIAS (1)**
68							69. **SELECTION BIAS (1)**
69							70. **ATTRITION BIAS (1)**
70							71. **TESTING BIAS (1)**
71							72. **INSTRUMENTATION BIAS (1)**
72							73. **OVERALL STUDY QUALITY (1)**
73-75							74. **TOTAL NUMBER OF OUTCOMES (3)**
76	BLANK						BLANK
77-80	0004						75. CARD NUMBER

OUTCOMES

1-4							76. STUDY ID (4)
5-6							77. COMPARISON NO. (2)
7-9							78. OUTCOME NUMBER (3)
10-14						G1	79. SAMPLE SIZE (5)
15-19						G2	
20-23							80. EFFECT SIZE (4) (± _ _ _ _)
24-25							81. DATA FR WH ES CALCULATED (2) 1=nat'l norms, 2=means-G2 sd, 3=means and pooled sd, 4=means and publ. sd, 5=+ or F ratio-one way 6=+-matched prs; F repeated measures, 7=non-par except chi sq., 8=prob. est., 9=source of variance-n-way ANOVA, 10=source of various repeated measures; 11=regression, 12=proportions, 13=chi sq., 14=other
26							82. SCALE OF MEAN DIFFERENCE (1) 1=final status measure, 2=raw gain store, 3=residual gain score, 4=covariance
27-28							83. DOMAIN OF OUTCOME (2) 1=IQ/prob. sol., 2=rdg readiness, 3=math readiness, 4=gen'l schl readiness, 5=rdg achvmt, 6=math achvmt, 7=lang achvmt, 8=gen'l schl 9=concept formation, 10=grade retention, 11=spec/rem plcmt 12=other

29						84. METHOD OF MEAS (1) 1=stand. test, 2=teacher/ research test, 3=outside research test, 4=multiple
30-32						85. WHO ADMINISTERED (3) 1=trtmt person, 2=post trtm person, 3=outside researchers, 4=multiple
33-35						86. SUBSEQUENT TREAT (3) 1=ft, 2=elem schl w/o ft, 3=elem and ft, 4=elem-no mention ft, 5=none
36-38						87. TYPE OF SP. CUR. OR EXP. TRT (3) 1=Cur. trt-spt., 2=Cur. trt-lg, 3=Par. trt-sp, 4=St. trg, 5=Other (specify)
39-41						88. WEEKS BETWEEN BEG OF TRT AND PRETEST (3) (_ _ _)
42-45						89. MONTHS BTWN TRT AND POSTTEST (4) (± _ _ _)
46-48						90. AVERAGE MONTHS BETWEEN PRE- (3) AND POSTTEST (_ _ _)
49-79	BLANK					BLANK
80-83						91. CARD NUMBER

SOCIOEMOTIONAL OUTCOMES

							OUTCOMES
1-4							76. STUDY ID (4)
5-6							77. COMPARISON NO. (2)
7-9							78. OUTCOME NUMBER (3)
10-14						G1	79. SAMPLE SIZE (5)
15-19						G2	
20-23							80. EFFECT SIZE (4) (+ _ _ _)
24-25							81. DATA FR WH ES CALCULATED ( ) 1=nat'l norms, 2= means-G2 sd, 3=means and pooled sd, 4=means and publ. sd, 5=+ or F ratio-one way 6=+-matched prs; F repeated measures, 7=non-par except chi sq., 8=prob. est., 9=source of variance-n-way ANOVA, 10=source of various repeated measures; 11=regression, 12=proportions, 13=chi sq., 14=other
26							82. SCALE OF MEAN DIFFERENCE ( )
19-21							1=final status measure, 2=raw gain score, 3=residual gain score, 4=covariance

						OUTCOMES
27-28						83. DOMAIN OF OUTCOME (2) 21=self-con., 22=social beh., 23=gen'l persl., 24=task ort., 25=anxiety, 26=cur., 27=inov/creat., 28=reflect., 29=fld. indep., 30=dist/persist., 31=tolern., 32=autnmy., 33=extrvsn.
29						84. METHOD OF MEAS (1) 1=stand. test, 2=teacher/research test, 3=outside research test, 4=multiple
30-32						85. WHO ADMINISTERED (3) 1=trtmt. person, 2=post trtm. person, 3=outside researchers, 4=multiple
						86. SUBSEQUENT TREAT (3) 1=ft., 2=elem. schl. w/o ft, 3=elem and ft., 4=elem. no mention ft., 5=none
36-38						87. TYPE OF EXPER. TRT. (3) 1=short, 2=long, 3=parent, 4=staff, 5=other
39-41						88. WEEKS BETWEEN BEG OF TRT AND PRETEST (3) (- - -)
42-45						89. MONTHS BTWN TRT AND POSTTEST (4) (± _ _ _)

46-48							90. AVERAGE MONTHS BETWEEN PRE -AND POSTTEST (_ _ _)
49-76							BLANK
77-80							91. CARD NUMBER

ITEM #							CODER:
1-4							92. STUDY ID (4)
5-6							93. COMPARISON NO. (2)
7-9							94. CURRICULUM BASED ON THEORY (3) 1=yes, 2=sample, 3=no
10-12							95. TYPE OF THEORY (3)
13-15							96. NO. ADULTS TEACHING (3) (- - -)
16-18							97. TEAM TEACHING IDENTIFIED (3) 1=yes, 2=sample, 3=no
19-21							98. INDIVIDUAL PLANS (3) 1=yes, 2=sample, 3=no
22-24							99. BASIS OF INDIVIDUAL PLANS (3) 1=testing, 2=child consult, 3=outside consult, 4=staff consult, 5=parent consult, 6=multiple, 7=other (specify)
25-27							100. LANGUAGE INTERACTION EMPHASIS (3) 1=primary, 2=secondary, 3=not mentioned
28-30							101. LANGUAGE INTERACTION IDENTIFIED (3) 1=yes, 2=sample, 3=no
31-33							102. PERCENT PRACTICAL EXPERIENCE)3) (- - -)
34-36							103. NO. YEARS PRACTICAL EXPERIENCE (3) (- - -)

37-39						104. PERCENT STAFF IN TRAINING PROGRAMS (3) (- - -)
40-42						105. TYPE OF PARENT TREATMENT (3) 1=regular, 2=special
43-76	BLANK					BLANK
77-80	006					106. CARD NUMBER

APPENDIX D

BIBLIOGRAPHY FOR CHAPTERS III-VII

REFERENCES

Item numbers to the left of the citation are reference numbers for the Head Start collection housed at CSR, Incorporated. Numbers beginning with ED are identification numbers for the Educational Resource and Information Clearinghouse (ERIC) System. HS numbers are also Head Start collection numbers.

LIST OF STUDIES USED IN COGNITIVE EFFECTS ANALYSIS
CHAPTER III

Items preceded by an asterisk (*) are not included in the meta-analysis, but only in the narrative review.

Item

2.0 Abelson, W. D. et al.
Effects of a four-year Follow Through program on economically disadvantaged children.
Journal of Educational Psychology, 1974, 66:756-771.
HS200440

***4.0** Abt Associates, Inc. Cambridge, Massachusetts.
A National Survey of Head Start Graduates and Their Peers.
434p.
1978. ED152422

48.0 Alexander, T. et al.
The Language of Children in the "Inner City."
Journal of Psychology, 1968, 68:215-221.
ED041893

55.0 Allerhand, M. E.
Western Reserve University. Cleveland, Ohio.
Head Start Operational Field Analysis.
Progress Report III.
1966. ED015776

56.0 Allerhand, M. E.
Western Reserve University. Cleveland, Ohio.
Head Start Operational Field Analysis.
Progress Report IV.
1966. ED015777

81.0 Arizona University. Arizona Center for Childhood Education.
Tucson, Arizona.
Positive effects of a bicultural preschool program on the
intellectual performance of Mexican-American children.
Paper presented at the Annual Meetings of the American Educational
Research Association. Los Angeles, California.
February, 1969. 10p.
ED028827

86.0 Arnoult, Joseph F.
A Comparison of the Psycholinguistic Abilities of Selected Groups
of First Grade Children.
Dissertation Abstracts International, 1973, 33(7-A):3364-3365.
HS200028

97.0 Bank Street College of Education. New York, New York.
A comparative study of the impact of the two contrasting educational
approaches in Head Start, 1968-69.
1969. ED41643

98.1 Bank Street College of Education. New York, New York.
A follow-up study of Head Start graduates.
1970.

105.0 Barber, A. Z.
A descriptive study of intervention in Head Start.
(Doctoral dissertation, University of Georgia, 1970).
Dissertation Abstracts International, 1971, 31(08-A):3986.
HS200030

107.0 Barbrack, Christopher.
George Peabody College for Teachers. Nashville, Tennessee.
Dissemination of the Darcee model to Head Start: Results of a
training program for Head Start teachers and teacher aides.
1971. ED054062

116.0 Barrett, W. J.
The effect of Head Start experience on deprived groups:
administrative implications (Doctoral dissertation, Cornell
University, 1967).
Dissertation Abstracts International, 1968, 28(9-A):3400.
HS100033

129.0 **Bee, Colleen Kay.**
University of South Dakota.
A Longitudinal Study to Determine if Head Start Has Lasting Effects on School Achievement.
Dissertation Abstracts International, 1981, 42(5):Section A, 1943.
HS200845

146.0 **Berzonsky, M., & Reidford, P.**
Field test of an academically oriented preschool curriculum.
Paper presented at the American Educational Research Association Conference, New York, February 18, 1967.
ED015839

152.0 **Bissell, Joan S.**
National Institute of Child Health and Human Development (NIH).
Implementation of Planned Variation in Head Start. I. Review and Summary of the Stanford Research Institute Interim Report: First Year of Evaluation.
51p.
1971. ED052845

180.0 **Borden, Juliet P.; et al.**
Extended positive effects of a comprehensive Head Start—Follow Through Program Sequence on Academic Performance of Rural Disadvantaged Students.
Journal of Negro Education, 1975, 44(2):149-160.
EJ118524

*207.0 **Brown, Bernard, ed.**
Found: Long-Term Gains from Early Intervention. (AAAS Selected Symposia Series).
Boulder, Colorado. Westview Press.
192p.
1978 HS200808

232.2 **California, University of. Los Angeles**
Head Start Research and Evaluation Office. Annual Report.
172p.
November, 1967.

235.0 California, University of. Head Start Research and Evaluation Center.
Los Angeles, California.
Measurement of change in social and personal attitudes of parents of children in project Head Start.
1969. ED056759

256.0 Cawley, J. F.
University of Connecticut. Storrs, Connecticut
An assessment of intelligence, psycholinguistic abilities and learning aptitudes among preschool children
1966. ED014323

258.0 Cawley, John F.; et al.
Performance of Head Start and Non-Head Start Participants at First Grade. (EJ019429).
Journal of Negro Education, 1970, 39(2):124-131.
HS200067

280.0 Chicago University.
Chicago Early Education Research Center. Chicago, Illinois.
Predicting School Outcomes From Observations of Child Behavior in Classrooms.
24p.
1973. ED128426

*293.0 Clark, Carlean M.
Effects of the Project Head Start and Title I pre-school programs on vocabulary and reading achievement measured at the kindergarten and fourth grade levels.
Dissertation Abstracts International 1979, 40(4-A):1831-1832.
HS200641

317.0 Columbia University. Teachers College, Columbia University.
Head Start Evaluation and Research Center, New York.
Annual report. (2nd).
1968. HS100524

376.0 Des Moines Independent Community School District. Des Moines.
Head Start: Report of evaluation 1980-1981.
HS200855

432.0 Eddy, R.
University of Alabama.
Evaluation of Tuscumbia, Alabama Head Start data.
1971. DHS200-842

485.0 Educational Testing Service. Princeton, New Jersey.
Predictive Value of Measures of Self-Esteem and Achievement Motivation in Four- to Nine-Year-Old Low-Income Children. Disadvantaged Children and Their First School Experiences: ETS-Head Start Longitudinal Study.
126p.
1975. ED124310

486.0 Educational Testing Service. Princeton, New Jersey.
Stability and Change in Family Status, Situational, and Process Variables and Their Relationship to Children's Cognitive Performance. Disadvantaged Children and Their First School Experiences: ETS-Head Start Longitudinal Study.
261p.
1976. ED138339

500.0 Erickson, E.; et al.
Western Michigan University. Kalamazoo, Michigan.
Experiments in Head Start and early education: the effects of teacher attitude and curriculum structure on preschool disadvantaged children. Final report.
1969. ED041615

505.0 Far West Laboratory for Educational Research and Development.
Berkeley, California
Preliminary analysis of 1968-69 Head Start data.
1970. ED045203

506.0 Far West Laboratory for Educational Research and Development.
Preliminary analysis on kindergarten and first grade Follow Through tests results for 1968-69.
Occasional research report. Number 2.
1970. HS200534

510.0 Far West Lab. for educational Research and Development.
Berkeley, California.
Responsive model Head Start teacher and teaching assistant year end survey 1969-1970.
1970c. HS200326

512.0 Far West Lab. for Educational Research and Development.
Berkeley, California.
Evaluation of the FWL Responsive Headstart Program 1970-1972.
88p.
1972. ED175552

517.0 Faust, M.
Office of Economic Opportunity. Washington, DC.
Five pilot studies: Concerned with social-emotional variables affecting behavior of children in Head Start.
1968. ED056752

542.0 Friedman, M. I. et al.
University of South Carolina. Columbia, South Carolina.
An investigation of the relative effectiveness of selected curriculum variables in the language development of Head Start children.
1970. ED046497

565.0 Goodstein, H. A.; et al.
Connecticut University. Dept. of Educational Psychology.
Storrs, Connecticut.
The Prediction of Elementary School Failure Among High Risk Children.
1975. ED108749

580.0 Grindheim, R.
A comparative study of Head Start programs
(Doctoral dissertation, University of Missouri, 1970).
Dissertation Abstracts International, 31(10-A):3267.
HS200140

599.0 Handler, Ellen.
Organizational factors and educational outcome: A comparison of two types of preschool programs.
Education and Urban Society, 1972, 4:441-458
HS200147

606.0 Hartford City Board of Education. Hartford, Connecticut.
Child Development - Headstart Program.
13p.
1973. ED086365

607.0 Hartford Public Schools. Hartford, Connecticut.
Hartford Moves Ahead: An Evaluative Report. Headstart Child Development 1973-1974.
36p.
1974. ED105972

610.0 Hawaii, University of. Honolulu, Hawaii.
Head Start Evaluation and Research Center: Annual report, 1966-67.
1967(?). HS100444

617.0 Hawaii, University of. Honolulu, Hawaii.
Hawaii Head Start evaluation--1968-69.
Final report.
1970. ED042511

618.0 Hawaii, University of. Honolulu, Hawaii.
Hawaii Head Start evaluation follow-up--1968-69.
Final report.
1970. ED042515

621.0 Hawaii Univ. Education Research and Development Center. Honolulu, Hawaii.
Continuation of Programmatic Research on Curricular Modules for Early Childhood Education and Parent Participation. Final Report.
150p.
1971. ED059793

***668.0** High/Scope Educational Research Foundation. Ypsilanti, Michigan.
National Home Start Evaluation Interim Report V: Summative Evaluation Results.
341p.
1974. ED134318

***671.0** High/Scope Educational Research Foundation. Ypsilanti, Michigan.
National Home Start evaluation interim report VI: Twelve-month program issues, outcomes and costs.
1975. ED134322

***683.0** High/Scope Educational Research Foundation. Ypsilanti, Michigan.
National Home Start Follow up Study: A Study of Long-Term Impact of Home Start on Program Participants. Final Report.
220p.
1979. ED192903

735.0 Hulan, John R.
Head Start Program and Early School Achievement.
The Elementary School Journal, 1972, 73(2):291-294.
HS200180

744.0 Huron Institute. Cambridge, Massachusetts.
The quality of the Head Start Planned Variation data.
Volume I. (Planned Variation Study 71-72).
1973. ED082856

745.0 Huron Institute. Cambridge, Massachusetts.
The quality of the Head Start Planned Variation data.
Volume II. (Planned Variation Study 71-72).
1973. ED082857

746.0 Huron Institute. Cambridge, Massachusetts.
Cognitive effects of preschool programs on different types of children.
(Planned Variation Study 69-70, 70-71).
1973. ED082838

748.0 Huron Institute. Cambridge, Massachusetts.
Some Short Term Effects of Project Head Start: A Preliminary Report on the Second Year of Planned Variation--1970-71.
277p.
1973. ED113011

756.0 Huron Institute. Cambridge, Massachusetts.
Short Term Cognitive Effects of Head Start Programs: A Report on the Third Year of Planned Variation--1971-72.
509p.
1974. ED093497

782.0 Johnson, Dave.
A Follow-Up Study of Pupils From the Brevard County Full Year Head Start Program Who Entered the First Grade in the Brevard County Public School System.
Dissertation Abstracts International, 1971, 31(12-A):6343.
HS200198

786.0 Jones, James A.; et al.
Black Analysis, Inc. New York.
Learning and Self-Esteem Among Black and White Pre-Schoolers.
100p.
1975. ED122926

800.2 Kanawha County Board of Education. Charleston, West Virginia.
Kanawha County Head Start Evaluation Study.
Unpublished report, 1978.
HS800.2

805.0 Kansas, University of. Lawrence, Kansas.
Report No. III
Effects of a language program on children in a Head Start nursery.
1967. ED021636

812.0 Kansas, University of. Lawrence, Kansas.
Summary of 1968-1969 data.
Progress report no. 4.
1969. ED070530

876.0 Larson, Daro E.
Mankato State College. School of Education. Minneapolis, Minnesota.
The Effect of a Preschool Experience Upon Intellectual Functioning Among Four-Year-Old, White Children in Rural Minnesota.
8p.
1969. ED039030

877.0 Larson, Daro E.
Mankato State College. Mankato, Minnesota.
Stability of Gains in Intellectual Functioning Among White Children Who Attended a Preschool Program in Rural Minnesota.
Final Report.
14p.
1972. ED066227

895.0 Levy, A. W.
The effects of teacher behavior on the language development of Head Start children.
(Doctoral dissertation, Case Western Reserve University, 1968).
ED046946

903.0 Los Angeles County Economic and Youth Opportunities Agency.
Los Angeles, California.
Evaluation of Los Angeles County Head Start program, 1969-1970.
1970. ED058928

939.0 McNamara, J. R. et al.
Dade County Board of Public Instruction
Miami, Florida.
Evaluation of the effects of Head Start experience in the area of self-concept, social skills, and language skills.
Pre-publication draft.
1968. ED028832

961.0 Merrill Palmer Institute.
Michigan State University. Detroit, Michigan.
Heterogeneous vs. homogeneous social class grouping of preschool children in Head Start classrooms.
1969. ED045176

964.0 Merrill Palmer Institute.
Michigan State University. Detroit, Michigan.
A classification and attention training program for Head Start children.
Project report.
1970. ED041332

983.0 Miller, L. B.
University of Louisville. Louisville, Kentucky.
Experimental variation of Head Start curricula: A comparison of current approaches.
Annual report, June 12, 1968 - June 11, 1969.
1969. ED041618

984.0 Miller, L. B. et al.
University of Louisville. Louisville, Kentucky.
Experimental variation of Head Start curricula: a comparison of current approaches.
November 1, 1969 - January 31, 1970.
1970. ED041617

996.0 McDonald, M. S.; Monroe, Eleanor.
A Follow-Up Study of the 1966 Head Start Program, Rome City Schools, Rome, Georgia.
Unpublished paper. 42p.
HS200519

999.0 Montgomery County Public Schools. Rockville, Maryland.
Impact of the Head Start program.
Phase I of a projected longitudinal study.
1970. ED045193

1008.0 Munro, N.
University of Montana. Missoula, Montana.
A study of food and poverty among 113 Head Start children in Missoula, Montana.
1968. ED028829

1013.0 Nalbandian, M. K.
Progress for Providence, Inc. Providence, Rhode Island.
Analysis of two curricula: Englemann-Becker and New Nursery School.
Final report.
1971. ED057924

*1014.0 Nash, Lola B.; Seitz, Victoria.
Yale University. New Haven, Connecticut.
Long-term motivational-cognitive effects of day care.
Final report.
86p.
1975. ED119805

1035.1 Nummedal, S.; Stern, C.
University of California. Los Angeles, California.
Head Start graduates: one year later.
1971. ED048929.

1087.0 O'Piela, Joan M.
Detroit Public Schools.
Evaluation of the Detroit Public Schools Head Start Program, 1975-1976.
46p.
1976. HS200297

1116.0 Philadelphia School District. Philadelphia, Pennsylvania.
Follow through pupil achievement characteristics in Philadelphia.
1974-1975.
Vol. II: Quasi-longitudinal data.
1976. ED136942

1121.0 Philadelphia School District. Philadelphia, Pennsylvania.
Follow through pupil achievement characteristics in Philadelphia.
Quasi-longitudinal data 1975-1976 and 1976-1977.
Report no. 7870. Appendices Volume.
1976. ED136942

1125.0 Philadelphia School District. Philadelphia, Pennsylvania.
Prekindergarten Head Start evaluation.
Year end report. 1977-1978.
Report no. 7916.
1978. ED167581

1139.0 Pinkelton, Norma B.
A Comparison of Referred Head Start, Non-Referred Head Start and Non-Head Start Groups of Primary Public School Children on Achievement, Language Processing and Classroom Behavior.
Dissertation Abstracts International, 1976, 37(3-A):1459.
ED165909

1165.1 Reese, Clyde; Morrow, Robert O.
State College of Arkansas. Conway, Arkansas.
Socioeconomic Mix Effects on Disadvantaged Children in Preschool Child Development Programs. Phase II.
94 p.
1973. ED082814

1168.0 Research Triangle Institute. Durham, North Carolina.
A report on two national samples of Head Start classes:
Some aspects of child development of participants in full year 1967-68 and 1968-69 programs.
Final report.
1972. ED085407

1180.0 Richardson, D. C.
The ability to recall and identify the basic color terms by Head Start and kindergarten students
(Doctoral dissertation, East Texas State University, 1975).
Dissertation Abstracts International, 1975, 36(8-A): 5024.
HS200335

1196.0 Ross, A. O. et al.
State University of New York. Stony Brook, New York.
Increasing verbal communication skills in culturally disadvantaged pre-school children.
Final report.
1969. ED044186

1197.0 Ross, Robert F.
Pupil Development Survey of Project Head Start Participants.
Education, 1972, 92(4):99-107.
HS200343

1204.0 Sanders, F.
A study of the impact of the Chattanooga Public Schools Head Start Follow-Through program 1967-1970
(Doctoral dissertation, University of Tennessee, 1970).
Dissertation Abstracts International, 1971, 32(1-A):142.
HS200345

1217.0 Scruggs, A. W.
The effect of the Fall River and Lowell Head Start programs on behavioral characteristics associated with lower socioeconomic class preschool children
(Doctoral dissertation, Boston University, 1971).
Dissertation Abstracts International, 1971, 32(4-A):1949.
HS200353

1223.0 Seitz, Victoria; Abelson, Willa D.
Effects of Place and Testing on Peabody Picture Vocabulary Test Scores of Disadvantaged Head Start and Non-Head Start Children.
Child Development, 1975, 46(2):481-486.
HS200358

*Seitz, et al. contained in 207.0 Brown, Bernard, ed.

1238.0 Sklerov, Audrey J.
The Effect of Preschool Experience on the Cognitive Style of Reflectivity-Implusivity of Disadvantaged Children.
Graduate Research in Education and Related Disciplines, Spring 1974:77-91.
HS200769

1244.0 Smith, Merle.
Head Start Program, Poutiac School District 1970-71. Evaluation Report.
8p.
1972. ED063023

1247.0 Sontag, M., & Sella, A.
The effect of Head Start training on the cognitive growth of disadvantaged children.
Journal of Educational Research, 1969, 62(9):387-389.
HS100371

1254.1 Speech and Language Pathologists. Oklahoma City, Oklahoma.
Language stimulation program for Indian Head Start children.
15p.
1981.

1260.0 Stanford Research Institute. Menlo Park, California.
Implementation of Planned Variation in Head Start: Preliminary evaluation of Planned Variation in Head Start according to Follow Through approaches (1969-1970).
Interim report: First year of evaluation, part II.
(Planned Variation Study 69-70).
1971. ED052844

1262.0 Stanford Research Institute. Menlo Park, California.
Implementation of Head Start Planned Variation testing and data collection effort.
Final report.
(Planned Variation Study 69-70, 71-72).
1972. ED070532

1309.0 Temple University.
Child Development Research and Evaluation Center for Head Start, Temple University.
Annual Report.
1968. ED030487

(Chap. III-continued)

1310.0 Temple University.
Child Development Research and Evaluation Center for Head Start, Temple University.
Annual Report. 1968-69.
1969. ED043388

1319.0 Texas, University of, Child Development Evaluation and Research. Austin, Texas.
Proceedings of a Meeting of the Head Start Planning Committee with the Staff of the Child Development Evaluation-Research Center (Southwest), University of Texas, Austin, March 29, 1967.
153p.
1967. ED122934

1374.1 Victor, J.; Coller, A. R.
Preliminary report on the use of several early childhood inventories for the evaluation of educational programs.
36p.
1968. ED051259

1401.0 Westinghouse Learning Corporation. Athens, Ohio.
Ohio University.
The impact of Head Start: An evaluation of the effects of Head Start on children's cognitive and affective development.
Volumes I-II.
1969. HS100800

Wooldridge, Elizabeth T. and Way, Lula R. See 432.0, Eddy, R.

1447.1 Zigler, E.; Abelson, W.; Trickett; Seitz, V.
Is an intervention program necessary in order to improve economically disadvantaged children's IQ score?
Child Development, 1982, 53:340-348.

LIST OF STUDIES USED IN THE SOCIOEMOTIONAL EFFECTS ANALYSIS
CHAPTER IV

All of the studies listed here are used in the meta-analyses of socioemotional effects.

Item

98.1 Bank Street College of Education. New York, NY.
A follow-up study of Head Start graduates.
1970.

103.0 Banta, Thomas.
The Sands school project: first-year results.
1968. ED054870

105.0 Barber, A. Z.
University of Georgia.
A descriptive study of intervention in Head Start.
Dissertation Abstracts International, 1971, 31(08-A):3986.

485.0 Educational Testing Service. Princeton, New Jersey.
Predictive value of measures of self-esteem and achievement motivation in four- to nine-year-old low-income children.
Disadvantaged children and their first school experiences: ETS-Head Start Longitudinal Study.
1975. ED124310

500 Erickson, E., et al.
Western Michigan University. Kalamazoo, MI.
Experiments in Head Start and early education: the effects of teacher attitude and curriculum structure on preschool disadvantaged children. Final report.
1969. ED041615

617.0 Hawaii, University of. Honolulu, HI.
Hawaii Head Start Evaluation--1968-69. Final report.
1970. ED042511

621.0 Hawaii University Education Research and Development Center.
Honolulu, HI.
Continuation of programmatic research on curricular modules for early childhood education and parent participation. Final Report.
1971. ED059793

668.0 High/Scope Educational Research Foundation. Ypsilant, MI.
National Home Start evaluation interim report F: Summative evaluation results.
1974. ED134318

733.0 Howe, Alvin.
A comparison of parents' and teachers' perceptions of Head Start and non-Head Start students.
Dissertation Abstracts International, 1970, 31(1-A):68.
HS200179

812.0 Kansas, University of. Lawrence, KS.
Summary of 1968-1969 data. Progress report no. 4.
1969. ED070530

996.0 McDonald, M. S., and Monroe, Eleanor.
Rome City Schools. Rome, GA.
A follow-up study of the 1966 Head Start program.
HS200519

939.0 McNamara, J. R. et al.
Dade County Board of Public Instruction. Miami, FL.
Evaluation of the effects of Head Start experience in the area of self-concept, social skills, and language skills. Pre-publication draft.
1968. ED028832

984.0 Miller, L. B. et al.
University of Louisville. Louisville, KY.
Experimental variation of Head Start curricula: a comparison of current approaches. November 1, 1969 - January 31, 1970.
1970. ED041617

1035.1 Nummedal, S. and Stern, C.
University of California. Los Angeles, CA.
Head Start graduates: one year later.
1971. ED048929

1334.0 Texas, University of. Austin, TX.
A comparison of Head Start children with a group of Head Start eligibles after one year in elementary school. Part of the final report.
1969. ED037247

1401.0 Westinghouse Learning Corporation.
Ohio University. Athens, OH.
The impact of Head Start: an evaluation of the effects of Head Start on children's cognitive and affective development. Volumes I-II.
1969. HS100800

1447.1 Zigler, E., Abelson, W., Trickett, and Seitz, V.
Is an intervention program necessary in order to improve economically disadvantaged children's IQ score?
Child Development, 1982, 53:340-348.

LIST OF STUDIES USED IN HEALTH EFFECTS ANALYSIS
CHAPTER V

No meta-analyses of community effects are performed because too few studies report sufficient data to calculate effect sizes.

Item

4 Abt Associates, Inc. Cambridge, Massachusetts.
A National Survey of Head Start Graduates and their Peers.
434p.
1978. ED152422

16.3 Abt Associates, Inc. Cambridge, Massachusetts.
The Effects of Head Start Health Services: Report of the Head Start Health Evaluation.
401p.
1984

70 Applied Management Sciences, Inc. Silver Spring, Maryland.
Evaluation of the Process of Mainstreaming Handicapped Children into Project Head Start. Phase I. Final Report.
480p.
1978A ED168239

74 Applied Management Sciences, Inc. Silver Spring, Maryland.
Evaluation of the Process of Mainstreaming Handicapped Children into Project Head Start. Phase II. Final Report.
555p.
1978B ED177803

117 Barton, Douglas H.
The Oral Health Needs of Head Start Children.
Journal of Dentistry for Children, 42(3):210-212.
1975 HS200034

140 Bergel, Reinard R.
Motor Performance Abilities and Perceptual Motor Functions of Four and Five Year Old Project Head Start and Non-Project Head Start Preschool Children: A Factor Analytic Study.
Dissertation Abstracts International, 38(8-B):3625.
1978. HS200668

163 **Bogdan, Robert.**
National Policy and Situated Meaning: The Case of Head Start and the Handicapped.
American Journal of Orthopsychiatry, 46(2):229-235.
1976 HS200047

329 **Cook, Richard A.**
Nutritional Status of Head Start and Nursery School Children. II. Biochemical Measurements.
Journal of the American Dietitic Association, 68(2):127-132.
1976A HS200778

330 **Cook, Richard A.**
Nutritional Status of Head Start and Nursery School Children. I. Food and Intake and Anthropometric Measurements.
Journal of the American Dietitic Association, 68(2):120-126.
1976B HS200083

340.1 **Cowell, Catherine.**
Nutrition Assessment of Preschool Children in Head Start Programs In and Out of Compliance with the Nutrition Performance Standard.
Dissertation Abstracts International, 44(7-B):2114.
142p.
1983. HS0340.1

449 **Educational Testing Service. Princeton, New Jersey.**
Disadvantaged Children and Their First School Experiences: ETS-Head Start Longitudinal Study. Preliminary Description of the Initial Sample Prior to School Enrollment. Summary Report.
55p.
1971 ED084040

549 **Geesaman, Patricia.**
The Health Status of Project Head Start Children and Non-Project Head Start Children from the Same Socio-Economic Level.
Dissertation Abstracts International, 31:5453.
1971 HS200129

554 **Gietzen, D.; Vermeersch, J. A.**
Health Status and School Achievement of Children from Head Start and Free School Lunch Programs.
Public Health Reports, 95(4):362-368.
1980 HS200699

597 Hambidge, K.
Zinc Nutrition of Preschool Children in the Denver Head Start Program.
American Journal of Clinical Nutrition, 29(7):734-738.
1976 HS200146

598 Hambidge, K.; Mertz, W.
U.S. Department of Agriculture, Beltsville, Maryland.
Human Requirement for Zinc: Effect of Zinc Supplements in Head Start Children.
HS200690

621 Hawaii University. Head Start Research and Evaluation Center.
Honolulu, Hawaii.
A Comparative Analysis of Day Care Licensing Standards.
190p.
1971 ED114196

633.1 Hendricks, Charlotte.
Evaluation of a Health Education Curriculum for Head Start.
Unpublished doctoral dissertation, Indiana University.
102p.
1982

644 HEW Region III, Washington, D.C.
Head Start Assessment, 1977.
90p. HS200476

741 Hunter, Gertrude T.
Health Care through Head Start.
Children, 17(4):149-153.
1970 HS200183

748 Huron Institute. Cambridge, Massachusetts.
Some Short Term Effects of Project Head Start.
A Preliminary Report on the Second Year of Planned Variation--1970-71.
277p.
1973 ED113011

770.1 Informatics General Corporation, Rockville, Maryland.
Handicapped Efforts Survey Report. Unpublished.
1983

838 Kirschner Associates, Inc. Albuquerque, New Mexico.
A National Survey of the Impacts of Head Start Centers on Community Institutions.
270p.
1970 ED045195

920 Mason, Gilbert R.
A Study Regarding Sickle Cell Disease in Children of Harrison County Head Start Program, 1971-1972.
Journal of the Mississippi State Medical Association, 14(7):284-285.
1973 HS200591

922.2 Maxima Corporation. Bethesda, Maryland.
Project Head Start, 1982-83.
Annual Program Information Report.
Unpublished data.
1983 HS922-2

973 Midco Educational Associates, Inc. Denver, Colorado.
Investigation of the Effects of Parent Participation in Head Start.
Non-Technical Report.
72p.
1972A ED080216

974 Midco Educational Associates, Inc. Denver, Colorado.
Investigation of the Effects of Parent Participation in Head Start.
Final Technical Report.
251p.
1972B ED080215

1008 Munro, Nancy.
A Study of Food and Poverty Among 113 Head Start Children in Missoula, Montana.
113p.
1968 ED028829

1010 Murphy, Richard F.
Dental Health Status of Gulf Coast Head Start.
Journal of the Alabama Dental Association, 58(1):32-37.
1974 HS200273

1091 Owen, George M. et al.
Children's Hospital Research Foundation. Columbus, Ohio.
Nutrition Survey of White Mountain Apache Preschool Children.
22p.
1970 ED046508

1118 Philadelphia School District, Philadelphia, Pennsylvania.
Report of Early Childhood Programs Health Services, 1976-1977, Report No. 7842.
36p.
1977 ED152402

1128 Philadelphia School District, Philadelphia, Pennsylvania.
Report of Early Childhood Program, Mental Health Services, 1978-1979, Report No. 8054.
18p.
1980 ED188774

1151 Pugnier, Vincent A.
Dental Needs of Minnesota's Head Start Children.
Northwest Dentistry, 53(5):279-283.
1974 HS200320

1197 Ross, Robert F.
Pupil Development Survey of Project Head Start Participants.
Education, 92(4):99-107.
1972 HS200343

1220 Seham, Max.
Poverty, Illness, and the Negro Child.
Pediatrics, 46(2):305-311.
1970 HS200347

1297 Syracuse University. Division of Special Education and Rehabilitation. New York.
Assessment of the Handicapped Effort in Experimental Regular Head Start and Selected Other Exemplary Pre-School Programs Serving the Handicapped. Volume I, Chapters 1-7. Final Report.
275p.
1974 ED108440

1362 Urban Institute, Washington, D.C.
Evaluation of the Head Start Experience with "Healthy, That's Me" in the Second Year. Volume I.
157p.
1973 ED086325

1401.9 Westinghouse Health Systems. Columbia, Maryland.
Head Start Health Consultation Project: Draft Final Report.
120p.
1982

LIST OF STUDIES IN FAMILIES EFFECTS ANALYSIS
CHAPTER VI

The five studies that report sufficient data to calculate effect sizes and thus are used in meta-analyses are noted by asterisks.

Item

4 Abt Associates, Inc. Cambridge, Massachusetts.
A National Survey of Head Start Graduates and Their Peers.
434p.
1978. ED152422

40 Adams, Diane.
Center for the Study of Parent Involvement. Berkeley, California.
Parent Involvement: Parent Development.
18p.
1976. ED186511

74 Applied Management Sciences, Inc. Silver Spring, Maryland.
Evaluation of the Process of Mainstreaming Handicapped Children Into Project Head Start. Phase II. Final Report.
555p.
1978. ED177803

105 Barber, Adeline Zachert.
A Descriptive Study of Intervention in Head Start.
Dissertation Abstracts International, 31(08-A):3986.
1971. HS200030

122 Bates, Barbara
Office of Child Development (DHEW). Washington, DC.
Project Head Start 1969-1970: A Descriptive Report of Programs and Participants.
344p.
1972 ED072858

133 Belton, John; Goldberg, Sidney.
Milwaukee Public Schools. Milwaukee, Wisconsin.
Parents' Evaluation of the Head Start Program in the Milwaukee Public Schools.
9p.
1966. ED020806

152 Bissell, Joan S.
National Institute of Child Health and Human Development (NIH)
Implementation of Planned Variation in Head Start. I. Review and Summary of the Stanford Research Institute Interim Report: First Year of Evaluation.
51p.
1971. ED052845

219 Burton, Mary H.
Effects of Socioeconomic Level Integration in Head Start Child Development Centers on Involvement and Related Attitude and Personality Changes among Parents of Enrolled Children.
Arkansas Experiment Station, Bulletin 854, May 1981.
HS200695

222 Bushell, Don, Jr.; Jacobson, Joan M.
The Simultaneous Rehabilitation of Mothers and Their Children.
Paper presented at meeting of the American Psychological Association, San Francisco, California, August 30, 1968. 11p.
ED034591

235 California Univ. Head Start Research and Evaluation Center.
Los Angeles, Calif.
Measurement of Change in Social and Personal Attitudes of Parents of Children in Project Head Start.
37p.
1969. ED056759

275 Charms, Vernon; Butts, Bobbye.
State University of New York. Urban Center. Brooklyn, New York.
The Family Education Project, Brooklyn, New York. The Urban Community College Project Series, Number 3.
65p.
1971. ED054278

301 Cline, M. G. et al.
Virginia Polytechnic Institute Secondary Analysis of the Data from the Evaluation of the Transition of Head Start Children Into Public Schools. Final Report.
295p.
1980. #5200439

318 Comptroller General, U.S. General Accounting Office
1975. ED113037

343 Coy, Michael N.
Merced County Schools. Merced, California.
The Effects of Integrating Young Severely Handicapped Children Into Regular Preschool Headstart and Child Development Programs.
101p.
1977. ED149498

363 Datta, Lois-ellin; et al.
The Effects of Head Start Classroom Experience on Some Aspects of Child Development: A Summary Report of National Evaluations, 1966-1969.
106p.
1973c. HS200094

408 Dittmann, Laura L.
Maryland University. College of Education. College Park, Maryland.
Children in Head Start 1970-1971: Supplemental Report for Office of Child Development.
85p.
1972. ED085098

443 Educational Testing Service. Princeton, NJ.
Disadvantaged Children and Their First School Experiences: ETS-Head Start Longitudinal Study. Preliminary Description of the Initial Sample Prior to School Enrollment. A Report in Two Volumes: Volume I.
300p.
1970. ED047797

482 Educational Testing Service. Princeton, New Jersey.
Disadvantaged Children and Their First School Experiences: ETS-Head Start Longitudinal Study. Interim Report.
1973. HS200364

486 Educational Testing Service. Princeton, NJ.
Stability and Change in Family Status, Situational, and Process Variables and Their Relationship to Children's Cognitive Performance. Disadvantaged Children and Their First School Experiences: ETS-Head Start Longitudinal Study.
261p.
1976. ED138339

500 Erickson, Edsel L.; et al.
Western Michigan University. Kalamazoo, MI.
Experiments in Head Start and Early Education: The Effects of Teacher Attitude and Curriculum Structure on Preschool Disadvantaged Children. Final Report.
186p.
1969. ED041615

562 Goldberg, Sydney J.
Working With Head Start Parents in Public Schools: A Community Agency-School Approach.
Adult Leadership, 1969, 17(8):344-346.
HS100134

571 Gordon, Ronnie; et al.
New York University. New York.
Pilot Study of the Efficacy of Mainstreaming-Integrating Handicapped Children. Final Report.
277p.
1978. ED165387

607 Hartford Public Schools. Hartford, Connecticut.
Hartford Moves Ahead: An Evaluative Report. Headstart Child Development 1973-1974.
36p.
1974. ED105972

610 Hawaii University. College of Education. Honolulu, Hawaii.
Head Start Evaluation and Research Center: Annual Report, 1966-67. 186p.
HS100444

*617 Hawaii Univ. Head Start Research and Evaluation Center. Honolulu, Hawaii.
Hawaii Head Start Evaluation--1968-69. Final Report.
192p.
1970. ED042511

620 Hawaii Univ. Education Research and Development Center. Honolulu, Hawaii.
Programs of Head Start Parent Involvement in Hawaii. A Section of the Final Report for 1969-70.
13p.
1971. ED048935

621 Hawaii Univ. Education Research and Development Center. Honolulu, Hawaii.
Continuation of Programmatic Research on Curricular Models for Early Childhood Education and Parent Participation. Final Report.
150p.
1971B. ED059793

638 Hertz, Thomas W.
Office of the Assistant Secretary for Planning and Evaluation (DHEW).
The Impact of Federal Early Childhood Programs on Children.
110p.
1977. ED142323

645 HEW Region III. Washington, D.C.
Head Start Assessment.
90p.
1977. HS200476

668 High/Scope Educational Research Foundation. Ypsilanti, Michigan.
National Home Start Evaluation Interim Report V: Summative Evaluation Results.
341p.
1974. ED134318

707 Highberger, Ruth; Brooks, Helen.
Vocabulary Growth of Head Start Children Participating in a Mother's Reading Program.
Home Economics Research Journal, 1973, 1(3):185-187.
HS200811

720 Holmes, Douglas; Holmes, Monica Bychowski.
Associated YM-YWHAS of Greater New York. New York.
An Evaluation of Differences Among Different Classes of Head Start Participants. Final Report.
106p.
1966. ED015012

733 Howe, Alvin.
A Comparison of Parents and Teachers' Perceptions of Head Start and Non-Head Start Students.
Dissertation Abstracts International, 1970, 31(1-A):68.

784 Johnson, Jerry; Peevers, Barbara.
The Effects of a Head Start Program on Maternal Attitudes and Behaviors.
29p.
1979. ED175534

799 Juarez and Associates, Inc. Los Angeles, California.
An Evaluation of the Head Start Bilingual Bicultural Curriculum Development Project. Final Report.
500p.
1982. HS200783

800 Juniper Gardens Children's Project. Kansas City, Missouri.
The Juniper Gardens Parent Cooperative Nursery. Final Progress Report.
38p.
1968. ED032920

828 Kearney, Nancy.
Attitude Change of Project Head Start Parents.
Dissertation Abstracts International, 1969, 30(3-A):1021.
HS100208

*833 Kinard, Jesse.
The Effect of Parental Involvement on Achievement of First and Second Siblings Who Have Attended Head Start and Follow Through Programs.
Dissertation Abstracts International, 1975, 35(9-A):5914.
HS200211

834 King-Elkan, Susan.
Head Start in Otsego County, New York. Oneonta, New York.
A Follow-Up Study of Head Start Children With Special Needs.
68p.
1981. HS200893

838 Kirschner Associates, Inc. Albuquerque, New Mexico.
A National Survey of the Impacts of Head Start Centers on Community Institutions.
270p.
1970. ED045195

845 Kirschner and Associates. Washington, D.C.
An Assessment of Head Start Supplementary Training Programs In Providing Child Development Associate Competency Based Training. Volume I: Executive Summary - National Survey.
37p.
1978. ED164099

863 Kuipers, Judith Lee.
The Differential Effects of Three Parent Education Programs on the Achievement of Their Children Enrolled in an Experimental Head Start Program.
Dissertation Abstracts International, 1970, 30(12-A):5321.
HS200223

868.1 Lamb-Parker, Faith.
Project Head Start, A Supportive Institutional Social Network: The Effects of Parental Utilization on Psychosocial Well-Being.
Unpublished doctoral dissertation. New School of Social Research, New York, New York.
1983. H5868.1

882 Lazar, Joyce B.; Chapman, Judith E.
George Washington University. Social Research Group. Washington, D.C.
A Review of the Present Status and Future Research Needs of Programs to Develop Parenting Skills.
206p.
1972. ED068150

911 Madison, Virgie G.
A Study of Parent Perceptions Regarding Services Provided in Head Start Programs in Washington, D. C.
Dissertation Abstracts International, 1976, 37(8-A):4722.
HS200251

915 Mann, Ada J.; et al.
George Washington University. Social Research Group. Washington, D.C.
A Review of Head Start Research Since 1969.
200p.
1976. ED132805

922.1 Maxima Corporation, Bethesda, MD
Project Head Start 1981-82.
Annual Program Information Report.
Unpublished data
1983 HS922-1

922.2 Maxima Corporation, Bethesda, MD
Project Head Start 1982-83.
Annual Program Information Report.
Unpublished data
1983 HS922-2

955 Merrill Palmer Institute. Michigan State University. Detroit, Michigan.
Attitudes, Expectations, and Behavior of Parents of Head Start and Non-Head Start Children. Report Number 1.
24p.
1968. ED030475

959 Merrill Palmer Institute. Michigan State University. Detroit, Michigan.
Social Class and Parent's Aspirations for Their Children. Report Number 8.
18p.
1968. ED030482

962 Merrill Palmer Institute. Michigan State University. Detroit, Michigan.
Parents as Primary Change Agents in an Experimental Head Start Program of Language Intervention. Experimental Program Report.
191p.
1969. ED044168

966.1 Michigan State University. East Lansing, Michigan.
Head Start Evaluation and Research Center. Annual Report.
84p.
1968.

967 Michigan State University. East Lansing, Michigan.
An Experimental Therapeutic Program for Head Start Children.
Year End Report.
93p.
1970. ED057882

973 Midco Educational Associates, Inc. Denver, Colorado.
Investigation of the Effects of Parent Participation in Head Start. Non-Technical Report.
72p.
1972A. ED080216

*974 Midco Educational Associates, Inc. Denver, Colorado.
Investigation of the Effects of Parent Participation in Head Start. Final Technical Report.
251p.
1972B. ED080215

*996 McDonald, M. S.; Monroe, Eleanor.
A Follow-Up Study of the 1966 Head Start Program, Rome City Schools, Rome, Georgia.
Unpublished paper. 42p.
HS200519

1004 Morris, Vivian D.
Factors Related to Parental Participation in Project Head Start.
Dissertation Abstracts International, 1974, 34(8-A):4576.
HS200271

1020 National Institute for Advanced Studies. Washington, D.C.
An Analysis of Annual Year 1980-1981 Head Start Program Indicators. IV Volumes .
1981. HS200792

1083 O'Keefe, Ann.
Administration for Children, Youth, and Families (DHEW).
Washington, DC.
What Head Start Means to Families.
72p.
1978. ED161525

*1102 Payne, James S.
An Investigation of the Effect of a Training Program Designed to Teach Parents How to Teach Their Own Head Start Children.
Dissertation Abstracts International, 1971, 31(11-A):5890.
HS200305

1120 Philadelphia School District. Philadelphia, Pennsylvania.
Study of Parent Involvement in Early Childhood Education Programs.
Report No. 7844.
83p.
1977. ED152400

1125 Philadelphia School District. Philadelphia, Pennsylvania.
Prekindergarten Head Start Evaluation. Year End Report. 1977-1978.
Report No. 7916.
73p.
1978. ED167581

1136 Phillips, Bertrand P.
Head Start Parents in Participant Groups: III. Community Trainer as Link to Social Change.
Journal of Applied Behavioral Science, 1974, 10(2):259-263.
HS200311

1235 Silverman, Albert.
An Evaluation of the Outcomes of a Social Service and a Parent Participation Program as Mandated by Head Start.
Dissertation Abstracts International, 1976, 37(5-A):3188.
HS200366

1237 Skinner, John H.; Perez-Daple, Roy.
Office of Child Development (DHEW). Washington, D.C.
Feasibility Study on the Parent as Educator Concept.
42p.
1976. HS200475

1241 Smith, Barbara Lester.
Wayne State University.
An Investigation of A Parent Intervention Model on Changing Attitudes of Head Start Mothers.
Dissertation Abstracts International, 1980, 41(10):Section A, 4278.
HS200852

1260 Stanford Research Institute. Menlo Park, California.
Implementation of Planned Variation in Head Start: Preliminary Evaluations of Planned Variation in Head Start According to Follow Through Approaches (1969-1970).
Interim Report: First Year of Evaluation, Part II.
446p.
1971. ED052844

1268 Stearns, Marian S.
Office of Child Development (DHEW), Washington, D.C.
Report on Preschool Programs: The Effects of Preschool Programs on Disadvantaged Children and Their Families. Final Report.
195p.
1971. ED062025

1286 Stubbs, Johnnie L.
United Research and Development Corporation.
National Head Start Parent Involvement Study. Part I: Opportunities for Parent Involvement.
67p.
1980. HS200480

1302 System Development Corporation. Santa Monica, California.
Effects of Different Head Start Program Approaches to Different Characteristics: Report on Analysis of Data from 1966-67 and 1967-68 National Evaluations. Technical Memorandum.
323p.
1972A. ED072859

1303 System Development Corporation. Santa Monica, California.
Effects of Different Head Start Program Approaches on Children of Different Characteristics: Report on Analysis of Data from 1968-69 National Evaluation. Technical Memorandum.
394p.
1972B. ED072860

1311 Temple University. College of Education. Philadelphia, Pennsylvania.
"Need Achievement" Training for Head Start Children and Their Mothers.
36p.
1970. ED048943

1315 Terry, Gwenith L.
Parent Participation in Decision-Making in Year Round Head Start as a Predictor of Reading Readiness.
Dissertation Abstracts International, 1971, 31(9-A)4394.
HS200383

1332 Texas University. Child Development Evaluation and Research. Austin, Texas.
The Influence of Two Counseling Methods on the Physical and Verbal Aggression of Preschool Indian Children. Part of the Final Report on Head Start Evaluation and Research: 1968-69 to the Office of Economic Opportunity.
93p.
1969. ED037243

1336 Texas University. Child Development Evaluation and Research. Austin, Texas.
Parent Involvement in Project Head Start. Part of the Final Report on Head Start Evaluation and Research: 1968-1969 to the Office of Economic Opportunity.
101p.
1969. ED037244

1355 University of Washington. Seattle, Washington.
Social Change Evaluation Project: Health-Care Seeking Behavior of Project Head Start Families.
65p.
1968 HS100525

1362 Urban Institute. Washington, D.C.
Evaluation of Head Start Experience With "Healthy, That's Me" in the Second Year Volume I.
157p.
1973. ED086325

1379 Vukelich, Carol Palm.
Language Growth in Head Start Children.
Exceptional Children, 1974, 41(3):197-199.
HS200389

1393 Wayson, William W.
Head Start Parents in Participant Groups: I. Statistics and Stereotypes.
Journal of Applied Behavioral Science, 1974, 10(2):250-256.
HS200397

1395 Weber, James P.
Selected Characteristics of the Child's Social Environment and the Relationship of these Characteristics to Subsequent Measures in Head Start Classes.
Dissertation Abstracts International, 1969, 29(10-A):3476.
HS100399

1396 Webster, Loraine; Sloan, Kathy.
South Dakota University. Vermillion, South Dakota.
How Well Is Head Start Achieving Its Goals? Perceptions of Head Start and Nursery School Parents in Our Rural, Upper Midwest Area.
13p.
1981. HS200891

1399 Weld, Lindsay A.
Family Characteristics and Profit From Head Start.
Dissertation Abstracts International, 1973, 34(3-B):1172.
HS200401

1409 Williams, L. R.
Mending the Hoop: A Study of Roles, Desired Responsibilities and Goals for Parents of Children in Tribally Sponsored Head Start Programs.
Dissertation Abstracts International, 1975, 36(3-A):1361.
HS200405

1421 Wohlford, Paul.
Head Start Parents in Participant Groups.
Journal of Applied Behavioral Change, 1974, 10(2):222-249.
HS200411

LIST OF STUDIES USED IN COMMUNITIES EFFECTS ANALYSIS
CHAPTER VII

No meta-analyses of community effects were performed because too few studies report sufficient data to calculate effect sizes.

Item

4 Abt Associates, Inc. Cambridge, Massachusetts.
A National Survey of Head Start Graduates and Their Peers.
434p.
1978. ED152422

40 Adams, Diane.
Center for the Study of Parent Involvement. Berkeley, California.
Parent Involvement: Parent Development.
18p.
1976. ED186511

43 Administration for Children, Youth and Families.
Washington, D.C.
The Impact of Head Start: An Overview
8p.
1980. HS200858

99 Bank Street College of Education. New York.
Work Relations Between Professionals and Paraprofessionals in Head Start. Interim Report.
52p.
1970. ED054082

275 Charms, Vernon; Butts, Bobbye.
State University of New York. Urban Center. Brooklyn, New York.
The Family Education Project, Brooklyn, New York. The Urban Community College Project Series, Number 3.
65p.
1971. ED054278

276 Chertow, Doris S.
Project Head Start: The Urban and Rural Challenge.
Dissertation Abstracts International, 29(11-A):4082.
1969. HS100068

356 Datta, Lois-ellin.
Head Start's Influence on Community Change.
Children, 17(5):193-196.
1970. HS200092

357 Datta, Lois-Ellin; et al.
Office of Child Development (DHEW). Washington, D.C.
A Comparison of a Sample of Full Year and Summer Head Start Programs Operated by Community Action Agencies and Local Education Agencies.
66p.
1971. ED067154

(1447) Datta, Lois-Ellin.
Another Spring and Other Hopes: Some Findings from National Evaluations of Project Head Start.
In: Zigler, E. et al., Project Head Start: A Legacy of the War on Poverty. New York: MacMillan.
610p.
1979. ED183266

431 Economic and Youth Opportunities Agency of Greater Los Angeles, California.
Head Start Preschool Child Development Program.
Evaluation Report for 1970-71.
199p.
1971. ED061999

493.9 Empson, Judith; et al.
Roy Littlejohn Associates, Inc., Washington, D.C.
An Impact Evaluation of the Resource Access Projects: 1982-1983.
217p.
1983.

638 Hertz, Thomas W.
Office of the Assistant Secretary for Planning and Evaluation (DHEW).
The Impact of Federal Early Childhood Programs on Children.
110p.
1977. ED142323

644 HEW Region III. Washington, D.C.
Head Start Assessment. Executive Summary.
23p.
1977. HS200577

645 HEW Region III. Washington, D.C.
Head Start Assessment.
90p.
1977. HS200476

828 Kearney, Nancy.
Attitude Change of Project Head Start Parents.
Dissertation Abstracts International, 30(3-A):1021.
1969. HS100208

838 Kirschner Associates, Inc. Albuquerque, New Mexico.
A National Survey of the Impacts of Head Start Centers on Community Institutions.
270p.
1970. ED045195

846 Kirschner and Associates. Washington, D.C.
An Assessment of Head Start Supplementary Training Programs In Providing Child Development Associate Competency Based Training.
Volume II: Final Report of the National Survey.
81p.
1978. ED164099

898 Lewis, Cornell Theodore.
A Study of Various Factors in Head Start and Title I Programs in Twenty School Districts.
Dissertation Abstracts International, 32, (1-A):129
1971. HS200243

915 Mann, Ada J.; et al.
George Washington University. Social Research Group. Washington, D.C.
A Review of Head Start Research Since 1969.
200p.
1976. ED132805

922.2 Maxima Corporation, Bethesda, MD
Project Head Start 1982-83.
Annual Program Information Report.
Unpublished data
1983. HS922-2

973 Midco Educational Associates, Inc. Denver, Colorado.
Investigation of the Effects of Parent Participation in Head Start. Non-Technical Report.
72p.
1972A. ED080216

974 Midco Educational Associates, Inc. Denver, Colorado.
Investigation of the Effects of Parent Participation in Head Start. Final Technical Report.
251p.
1972B. ED080215

982 Miller, Leslie Jean
Cornell University
The Effects of Community Characteristics on a Federal Program: The Case of Head Start.
Dissertation Abstracts International, 38(12:Section A, 7577.
1978. HS200844

1083 O'Keefe, Ann.
Administration for Children, Youth, and Families (DHEW).
Washington, DC.
What Head Start Means to Families.
72p.
1978. ED161525

(1447) Robinson, James; Choper, Willa.
Another Perspective on Program Evaluation: The Parents Speak.
In: Zigler, E. et al., Project Head Start: A Legacy of the War on Poverty. New York: MacMillan
610p.
1979. ED183266

1268 Stearns, Marian S.
Office of Child Development (DHEW), Washington, D.C.
Report on Preschool Programs: The Effects of Preschool Programs on Disadvantaged Children and Their Families. Final Report.
195p.
1971. ED062025

1286 Stubbs, Johnnie L.
United Research and Development Corporation.
National Head Start Parent Involvement Study. Part I:
Opportunities for Parent Involvement.
67 p.
1980. HS200480

1302 System Development Corporation. Santa Monica, California.
Effects of Different Head Start Program Approaches on Children
of Different Characteristics: Report on Analysis of Data from
1967-68 National Evaluation. Technical Memorandum.
323p.
1972A. ED072859

1303 System Development Corporation. Santa Monica, California.
Effects of Different Head Start Program Approaches on Children
of Different Characteristics: Report on Analysis of Data from
1968-69 National Evaluation. Technical Memorandum.
394p.
1972B. ED072860

1343 Torczyner, James L.
Marin Head Start: A Case Study in Community Control.
Dissertation Abstracts International, 34(11-A):7335.
1974. HS200385

1355 University of Washington. Seattle, Washington.
Social Change Evaluation Project: Health-Care Seeking Behavior
of Project Head Start Families.
65p.
1968. HS100525

1401.9 Westinghouse Health Systems. Columbia, Maryland.
Head Start Health Consultation Project: Draft Final Report.
120p.
1982

1447 Zigler, E; Valentine, J.
Project Head Start: A Legacy of the War on Poverty.
New York: MacMillan
610p.
1979. ED183266

APPENDIX E

ADDITIONAL ANALYSES

1356 [illegible], Harold E.
United Research and Development Corporation
[illegible] Study. Part I:
[illegible]
57 p.
1966. [illegible]

1360 [illegible] Santa Monica, California.
Effects of [illegible]
of [illegible] Report on Analysis of Data [illegible]
[illegible]
322p.
1975. [illegible]

1361 [illegible] Santa Monica, California.
Effects of [illegible]
of [illegible] Analysis of Data [illegible]
[illegible]
[illegible]
1974. [illegible]

1362 [illegible], Harvey L.
[illegible]
[illegible]
1971. [illegible]

1363 University of Washington. Seattle, Washington.
[illegible]
of [illegible] Study [illegible]
630p.
1968. [illegible]

1363.5 Westinghouse Health Systems. Columbia, Maryland.
[illegible] Project. [illegible] Final Report.
120p.
1976.

1364 [illegible]
[illegible]
New York: [illegible]
415p.
1970. [illegible]

APPENDIX E

ADDITIONAL ANALYSES

A data base as large and as complex as the Head Start meta-analysis allows for any number of analyses. As in any body of data there are almost as many ways of examining the data as there are data analysts. There are also numerous alternative explanations for the findings we report in Chapters III and IV. In this Appendix we describe the results of the most important analyses we conducted that examine possible sources of bias. The analyses reported here include:

- Quality of study;
- Date study was conducted;
- Attrition of subjects from studies;
- Sample sizes used in studies;
- Comparability of treatment and control groups;
- Long-term effects of program variables.

We examined each of these variables to determine their influence on effect sizes. These variables were chosen through our own knowledge of meta-analysis and the Head Start literature and on the advice of our expert consultants. For each analysis, we used the global cognitive measure and the same weighting and analytic procedure described in Chapter II. None of these variables significantly altered the relationships reported in Chapter III. Thus, they were not incorporated into the main text.

There are, of course, many other variables of interest and different analytic techniques. Readers who are interested in conducting their own analyses may obtain copies of our data tapes from our Federal Project Officer, Mr. Allen Smith, at the Head Start Bureau, Administration for Children, Youth and Families, Washington, D.C. A raw data tape and an IBM/OS SPSS-X system file are available.

Quality of Study

As explained in the main text, the meta-analytic technique does not exclude studies *a priori* on methodological grounds. Rather, study quality is approached empirically. Effect sizes of studies of varying quality are compared. If there is a difference among studies, lower quality studies are excluded. If there is little or no difference in effect sizes, all studies are used to produce the largest possible data base.

One of our first analyses in preparing this report was to examine quality using our coded rating (see Chapter II). We divided studies into lower quality (scale score one or two) and higher quality (scale score three or four) and also separated studies by pre/post and treatment/control design. This gave us four groups of studies, for which we then examined immediate and long-term cognitive effects. The breakdown of studies is shown in Table E-1.

Table E-1

Study Quality

	Low	High
Pre/Post Studies	25	14
Experimental/Control Studies	23	15
Total	48	29

NOTE: Five studies had both pre/post and treatment/control comparisons and are thus counted twice in this table and Table E-2.

It is certainly discouraging to find 62 percent of the studies to be of lower quality. The problems include such characteristics as extremely small sample sizes, non-random assignment to groups, use of non-standardized tests, ex post facto designs and failure to evaluate comparability of control groups. Many studies of the ex post facto single group variety were encountered in screening and could not be coded because of the lack of a comparison group. In other cases, researchers simply failed to report crucial information such as the age of the children, the length of the program, the age at testing, significance levels, means or standard deviations. Again it was impossible to code many of these studies.

Table E-2 presents the number of codable studies by quality over time. Clearly the vast majority of the studies were conducted prior to 1975, 87% of the pre/post studies and 87% of the experimental/control studies. The middle group of pre/post studies and earliest experimental/control studies were about equally likely to be of lower as higher quality. The remaining groups of studies were more likely to be of lower than higher quality. It is discouraging to see that the quality of the research has not improved more over the years.

Table E-2

Study Quality by Time Period and Study Design

	Lower Quality	Higher Quality	Percent That Are Lower Quality
Pre/Post			
1965 - 1970	17	6	74%
1971 - 1975	5	6	45%
1976 - 1982	3	2	60%
Experimental/Control			
1965 - 1970	13	9	59%
1971 - 1975	7	4	64%
1976 - 1982	3	2	60%

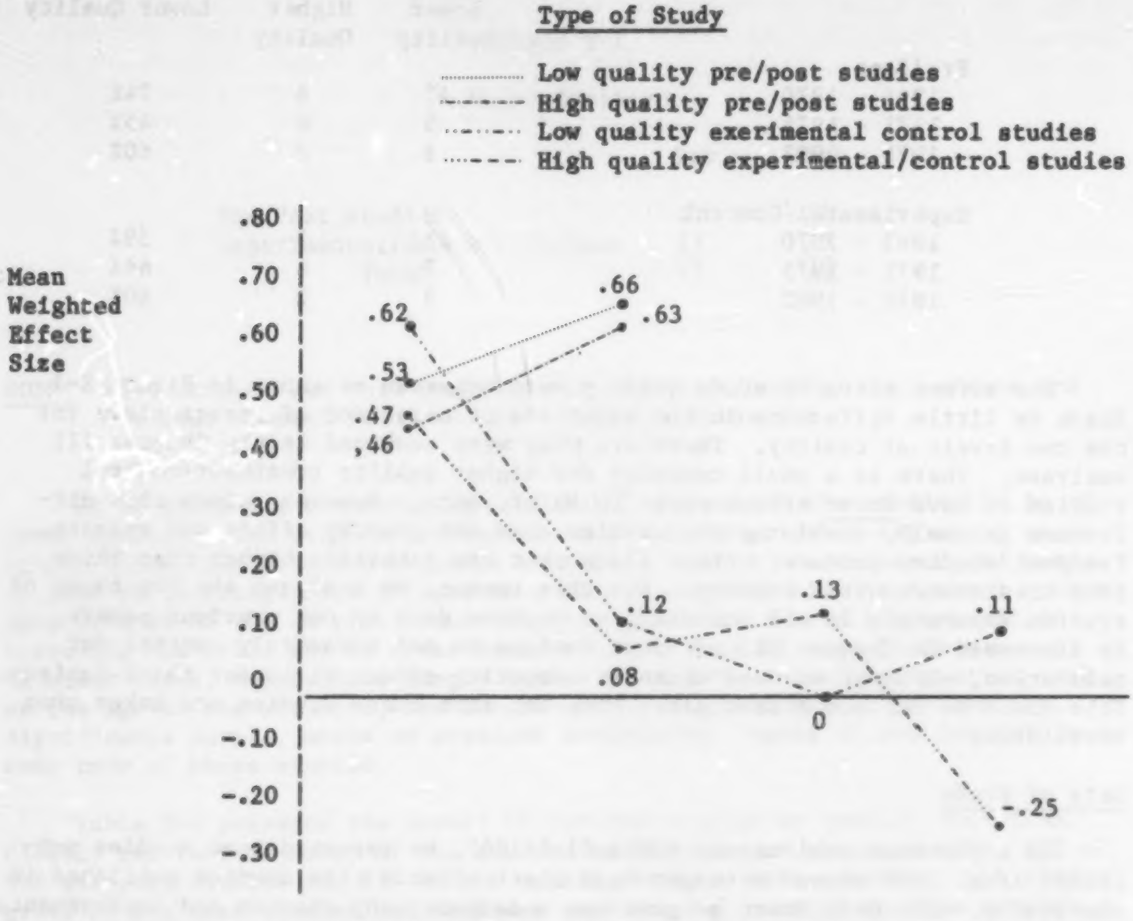
The effect sizes by study quality were compared as shown in Figure E-1. There is little difference in the magnitude or direction of effect sizes for the two levels of quality. Therefore they were combined in the Chapter III analyses. There is a small tendency for higher quality treatment/control studies to have lower effect sizes in later years. However, since this difference is small, combining the studies does not greatly affect the results. Pre/post studies produced effect sizes that are generally higher than those from treatment/control studies. For this reason, we analyzed the two types of studies separately in all analyses, as we have done in our previous papers. As discussed in Chapter II, pre/post designs do not adequately control for maturation, although we used norms in computing effect sizes for these designs. This tends to inflate effect sizes computed from these studies and makes them unreliable.

Date of Study

In a previous publication (OHDS-83-31186), we reported that studies published after 1969 showed stronger Head Start effects than studies published in the 1960's. The Head Start program has undergone many changes and improvements since its early days, and it was felt that these later studies would give a better indication of the present state of Head Start than the earlier studies.

Figure E-1

Effect Sizes by Design and Study Quality for the Global Cognitive Measure



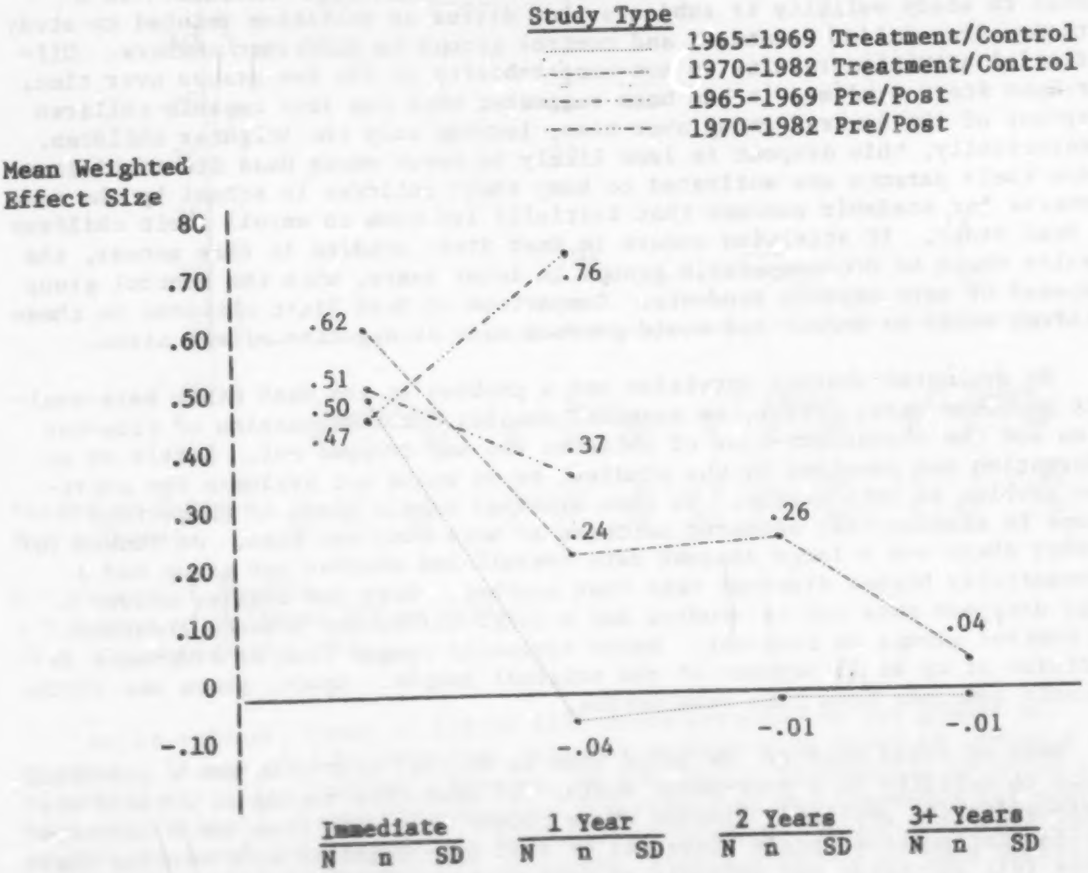
	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Lower Quality P/P	24	33	.34	2	5	.28			—			—
Higher Quality P/P	12	59	.37	2	2	.47			—			—
Lower Quality T/C	12	14	.47	6	10	.21	5	10	.29	5	19	.23
Higher Quality T/C	11	20	.35	9	18	.39	8	14	.49	3	6	.42

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Since that earlier publication, our analytic technique has been greatly revised and improved. These changes in technique are described in Chapter II. We re-analyzed the data by date of study using our new analytic procedure. Studies conducted between 1965 and 1969 were compared with studies from 1970-1982. The analysis was done separately for pre/post and treatment/control studies using the global cognitive measure for immediate and long-term effects, as shown in Figure E-2.

Figure E-2

Date of Study Publication:
Immediate and Long-Term Effects
on Global Cognitive Measure



	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
1965-1969 T/C	15	25	.36	7	14	.33	8	16	.35	5	10	.34
1970-1982 T/C	6	9	.15	8	14	.20	4	8	0	3	15	.31
1965-1969 P/P	20	33	.37	2	2	.08		--			--	
1970-1982 P/P	16	59	.36	2	5	.28		--			--	

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

The later treatment/control studies show more positive Head Start effects in all except the third year after Head Start. While the difference is small immediately after Head Start, it is much larger in the first and second years after the program. However, there is no evidence of an effect for Head Start beyond the second years from either group of studies. This indicates that the Head Start program may have made improvements since 1970 which resulted in effects that last somewhat longer. However, changes did not produce test score effects that lasted beyond two years.

Attrition of Subjects

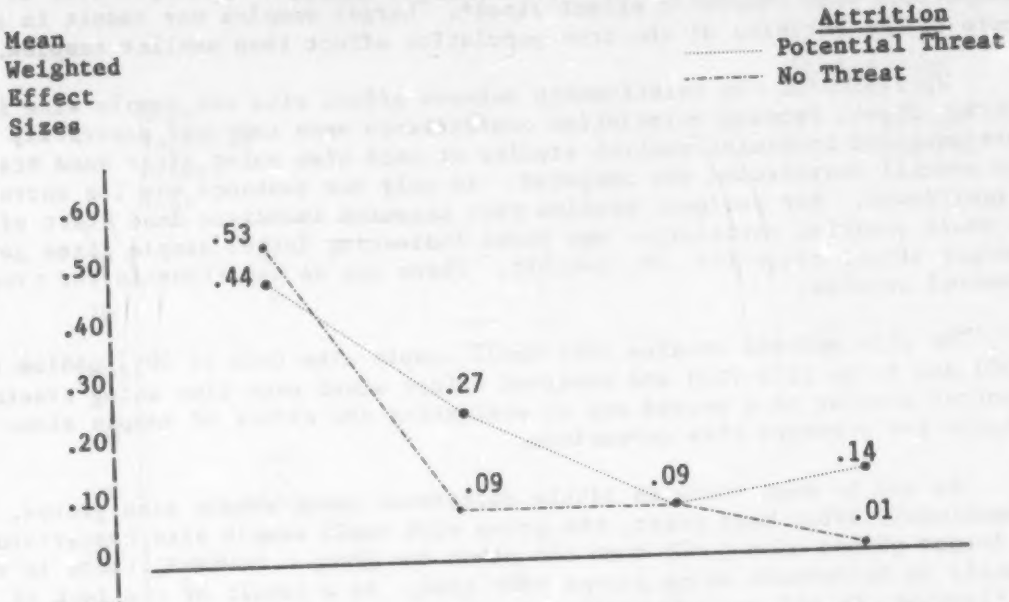
A potential problem with the validity of studies that examine long-term effects is differential dropout of subjects or attrition. Attrition is a threat to study validity if subjects that differ on variables related to study outcomes drop-out of treatment and control groups in different numbers. Differential attrition results in non-comparability of the two groups over time. For Head Start studies, it has been suggested that the less capable children drop-out of the control group over time, leaving only the brighter children. Theoretically, this dropout is less likely to occur among Head Start children since their parents are motivated to keep their children in school by the same concerns for academic success that initially led them to enroll their children in Head Start. If attrition occurs in Head Start studies in this manner, the results would be non-comparable groups in later years, with the control group composed of more capable students. Comparison of Head Start children to these children would be unfair and would produce zero or negative effect sizes.

We evaluated whether attrition was a problem in the Head Start meta-analysis in three ways. First, we examined studies for a discussion of drop-out rates and the characteristics of children who had dropped out. Little or no information was provided by the studies, so we could not evaluate the attrition problem in this manner. We then examined sample sizes of comparison groups in studies that measured outcomes at more than one time. We looked for whether there was a large dropout rate overall and whether one group had a substantially higher drop-out rate than another. Very few studies showed a large drop-out rate and no studies had a large difference between treatment and control groups on drop-out. Rates typically ranged from no drop-outs to attrition of up to 15 percent of the original sample. Again, there was little we could conclude from this examination.

When we coded studies, we rated them on whether attrition was a potential threat to validity on a four-point scale. We used this rating as a third way of assessing the problem. Studies where coders felt attrition was a definite or potential problem (scale score one or two) were compared with studies where coders felt attrition was probably or definitely not a problem (scale score three or four). Figure E-3 shows this analysis over time using the global cognitive measure.

Figure E-3

Attrition Threat by Time
After Head Start on Global
Cognitive Measure



	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Potential Threat	1	1	0	1	1	0	1	2	.04	2	3	.40
Not a Threat	20	33	.41	14	27	.34	11	22	.40	6	22	.31

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

As is evident, there is little difference between the two groups of studies. It can also be seen that very few studies were rated as having a potential attrition problem. However, we had little information on which to base our ratings. A separate analysis for attrition was conducted for those studies designed and executed as longitudinal studies. Results of this analysis are reported in Chapter III and again, little evidence of this problem was uncovered.

Sample Size

Studies varied in the number of children they examined in evaluating the effects of Head Start. Sample sizes ranged from as few as six to 761, with a median of 58. Some meta-analysts have recommended using sample size of the comparison when computing effect sizes[1]. Larger samples may result in a more stable estimate of the true population effect than smaller samples.

We evaluated the relationship between effect size and sample size in two ways. First, Pearson correlation coefficients were computed separately for pre/post and treatment/control studies at each time point after Head Start and an overall correlation was computed. In only one instance was the correlation significant. For pre/post studies that measured immediate Head Start effects a small positive correlation was found indicating larger sample sizes gave larger effect sizes ($r= .26$, $p<.01$). There was no relationship for treatment/control studies.

We also grouped studies into small sample size (six to 30), medium (31-100) and large (101-761) and examined effect sizes over time using treatment/control studies as a second way of evaluating the effect of sample size. Figure E-4 presents this comparison.

As can be seen there is little difference among sample size groups. Immediately after Head Start, the group with small sample size comparisons has a larger effect size (.73) than the other two groups: however, there is virtually no difference among groups over time. As a result of the lack of difference, we did not use sample size in computing effect sizes or when aggregating them across studies.

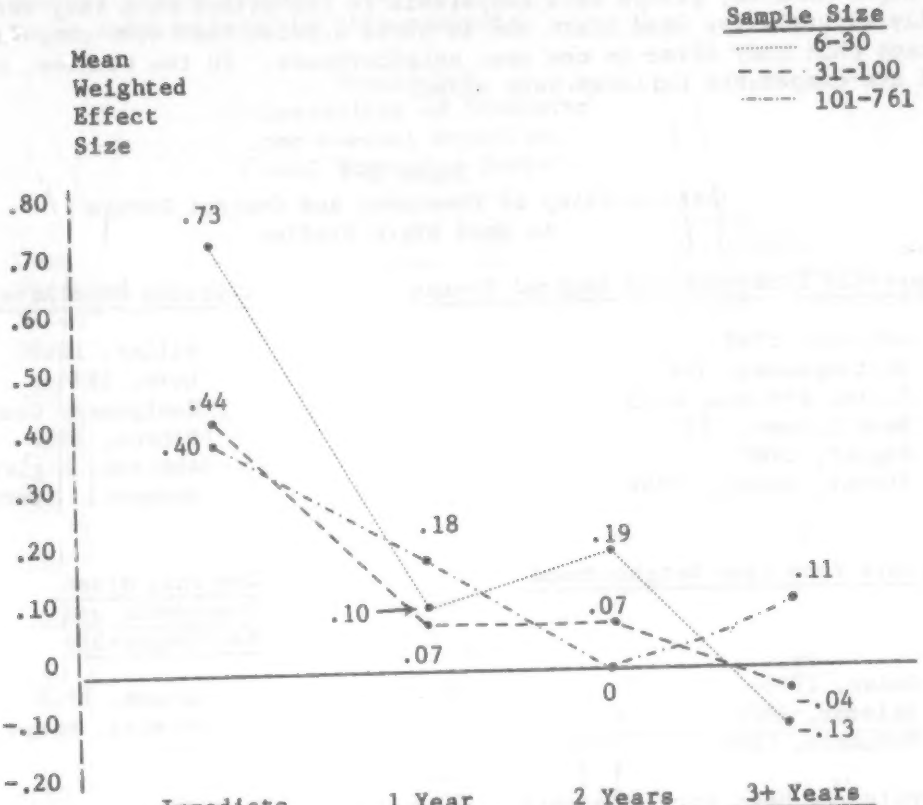
Comparability of Treatment and Control Groups

A potential problem with the treatment/control studies exists if their control groups are somewhat more advantaged than the Head Start subjects. This situation could of course, produce misleading results. There is a respected hypothesis (Campbell and Erlebacher, 1970) that failure to randomly assign subjects to treatment and control groups can produce findings which show no effects or deleterious effects. According to this argument, studies that evaluate the effects of a remedial program, such as Head Start, and do not use random assignment of treatment and control groups are usually unable to obtain a suitable control group. Typically, a control group is chosen from a more advantaged population. Since the more advantaged control group is drawn from a population with a higher mean score on the criterion measure than the children receiving the remedial treatment, their mean scores end up higher. The result is that the remedial program appears to have a deleterious effect.

---

[1] Hunter, J., Schmidt, F., Jackson, G., Meta - analysis: Quantitative Methods for Cumulating Research Findings Across Studies. Sage Publications, 1982.

Figure E-4
Sample Size of Comparison:
Relationship of Effect Size Over Time
for Treatment/Control Studies on
Global Cognitive Measure



	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
6-30	9	11	.53	5	7	.41	5	5	.62	3	2	.90
31-100	9	18	.20	10	15	.33	7	13	.31	6	11	.13
101-761	4	5	.50	4	6	.24	3	6	.30	2	12	.16

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

To examine this hypothesis, we carefully reviewed each of the long-term studies for any statements about the comparability of treatment and control groups. The results of that analysis are presented in Table E-3 . In seven studies, no data were provided on the comparability of the groups. In six studies, the two groups were not comparable and the controls were more advantaged. In six studies, the groups were comparable on demographic variables. In eight studies, groups were comparable to the extent that they were economically eligible for Head Start and in three studies they were comparable to the extent that they lived in the same neighborhoods. In two studies, comparable and non-comparable children were mixed.

Table E-3
Comparability of Treatment and Control Groups
in Head Start Studies

Comparable Treatment and Control Groups

- Johnson, 1968
- Westinghouse, 1967
- Seitz, Abelson, 1973
- Bank Street, 1970
- Zigler, 1982
- Victor, Coller, 1968

Controls from Same Neighborhood

- Hulan, 1970
- Sklerov, 1973
- McNamara, 1968

Controls are Head Start Eligible

- Cunningham, 1968
- Handler, 1972
- Borden, 1975
- Scruggs. 1967
- Erickson, 1969
- Sontag, 1967
- Henderson, 1969
- Bee, 1981

Controls More Advantaged

- Miller, 1969
- Love, 1974
- Montgomery County, 1969
- Monroe, 1980
- Abelson, Zigler, 1968
- Nummedal, Stern, 1971

Controls Mixed
Comparable and
Non-Comparable

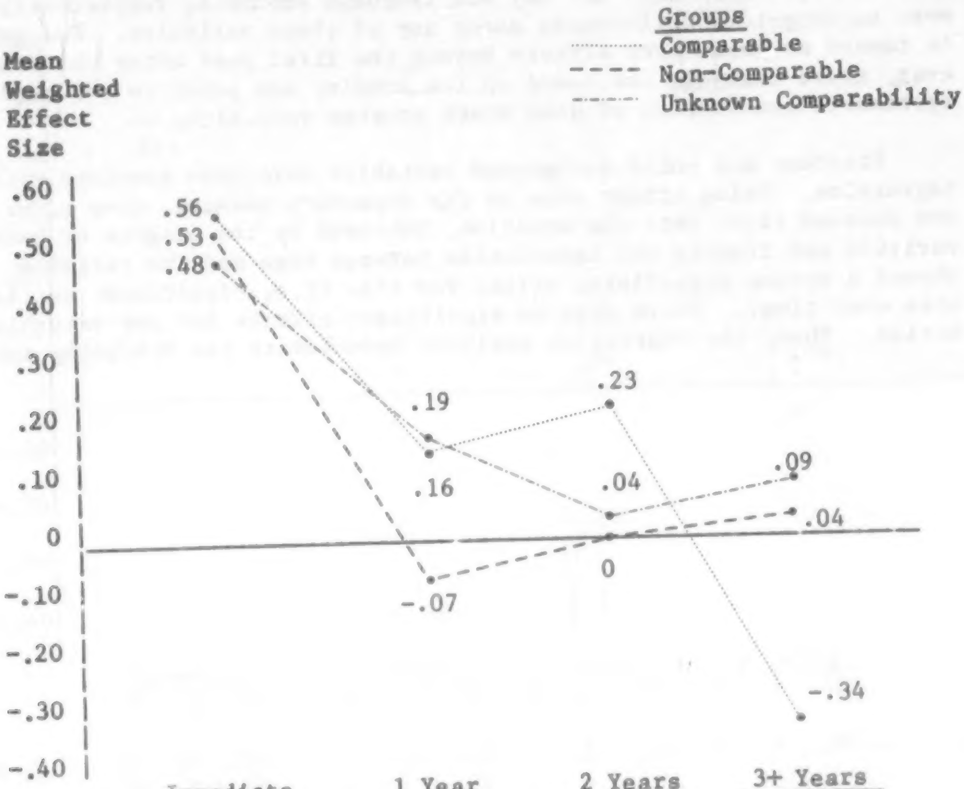
- Larson, 1969
- Crowley, Fargo, 1967

No Information

- Cawley, Goodstein, 1966
- Hartford City, 1972
- Pinkelton, 1969
- ETS, 1971
- Miller 1972
- Arnoult, 1971
- Phildelphia School District, 1978

The studies were analyzed separately by comparability. Studies were grouped to include the mixed and not comparable studies; the comparable, same neighborhood and Head Start eligible studies; and the no data studies. As presented in Figure E-5 , while the comparable study results showed higher effects at one and two years after Head Start, these effects disappeared at three years after the program ended. Thus, the concept that use of non-comparable control groups accounts for the decline in Head Start effects does not appear to be substantiated by this analysis.

Figure E-5
Comparability of Treatment
and Control Groups on
Global Cognitive Measure



	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Comparable	11	17	.40	7	11	.31	5	7	.39	2	2	.82
Non-Comparable	6	11	.43	4	9	.43	4	10	.44	2	6	.35
Unknown	3	5	.46	4	8	.17	3	7	.29	4	17	.22

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

We also tried to compare studies that used random assignment with those using matched or convenience designs. Randomly assigned treatment/control groups would be least likely to be effected by bias due to non-comparable groups. Unfortunately, only two studies (Scruggs, 1967, Erickson, 1979) utilized random assignment. Neither of these studies measured Head Start's effects after one year. Thus we were unable to conduct an analysis.

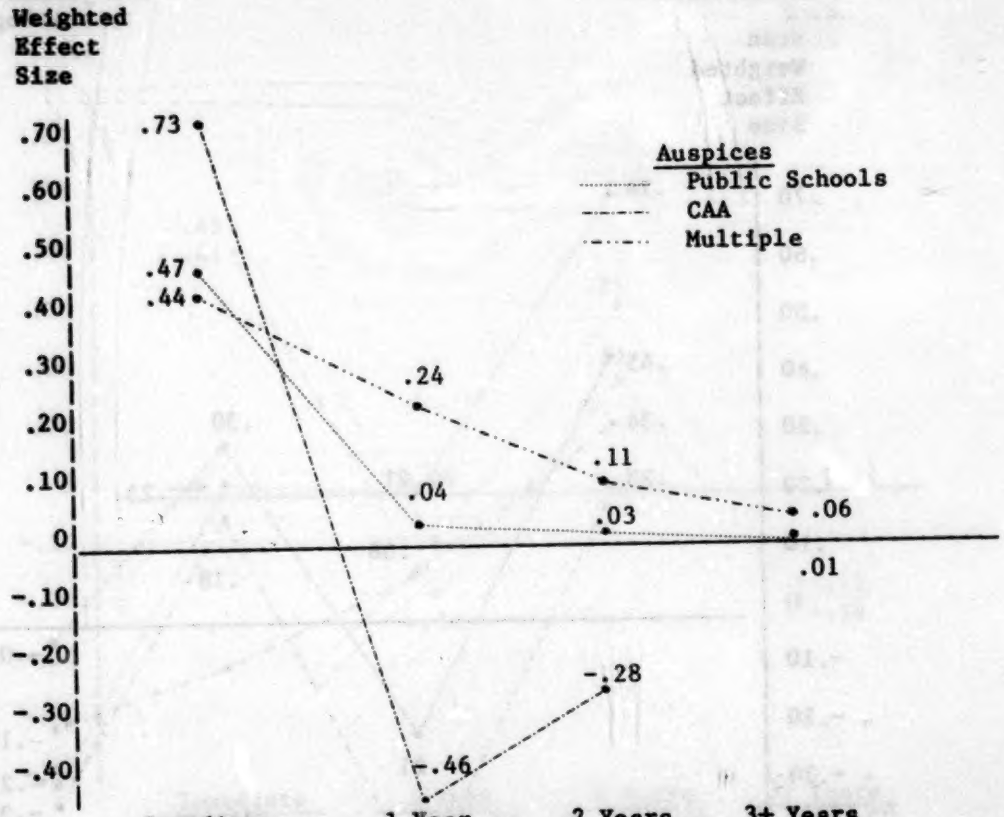
Long-Term Effect for Program Variables

In Chapter III we presented analyses of Head Start effects for program variables. Only the immediate post-program effects were presented. Figures E-6 to E-10 present the immediate and long-term analyses for treatment/control studies for the global cognitive measure for program auspices, curricula, class size, class hours per day and language emphasis, respectively. There were no long-term differences among any of these variables. The general trend is toward no Head Start effects beyond the first year after the program. However, these analysis are based on few studies and point to the need for a more systematic examination of Head Start program variables.

Programs and child background variables were also examined with multiple regression. Using effect size as the dependent measure, time after Head Start was entered first into the equation, followed by the program or background variable and finally the interaction between time and the variable. Results showed a strong significant effect for time (i.e, significant decline in effect size over time). There were no significant effects for any variable or interaction. Thus, the regression analyses corroborate the foregoing analyses.

Figure E-6

Program Auspices:
Immediate and Long-Term Effects
on Global Cognitive Measure



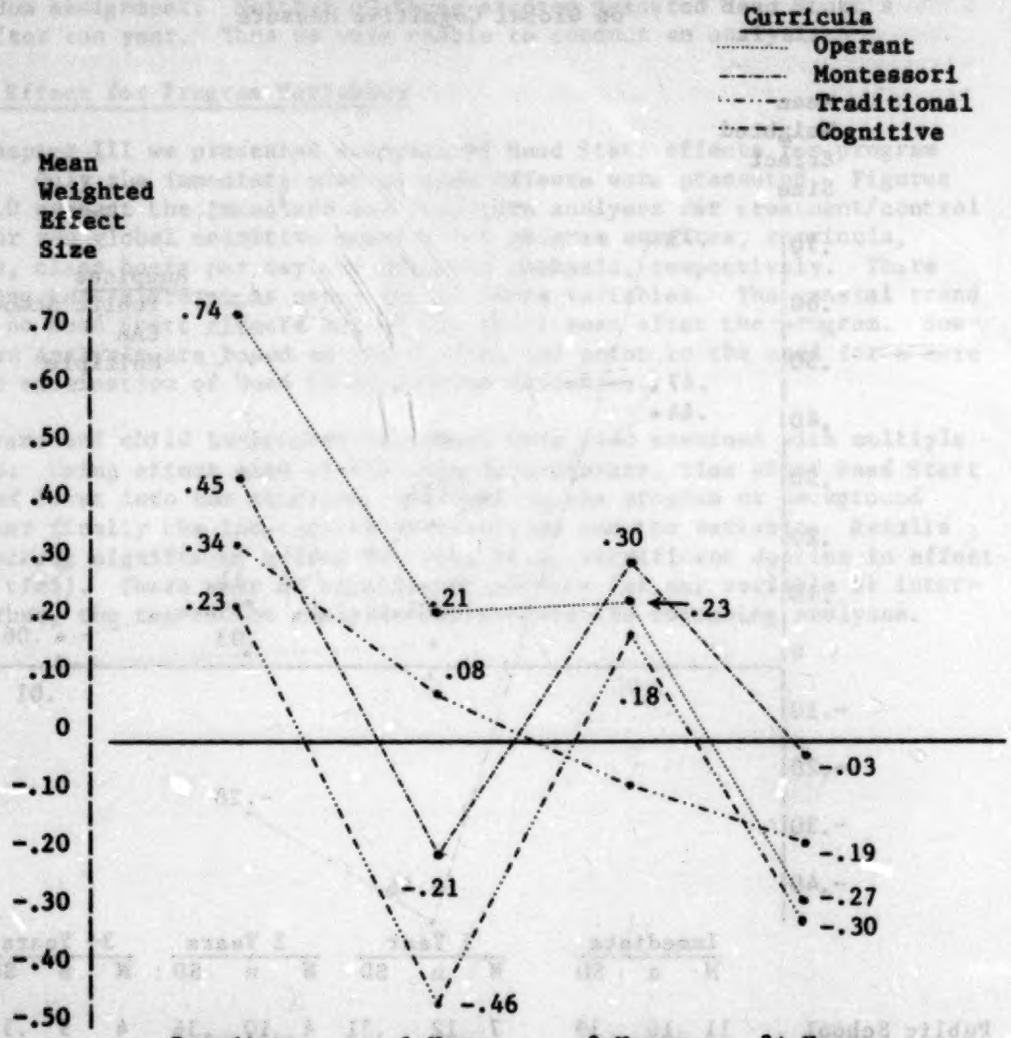
	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Public School	11	16	.39	7	12	.31	4	10	.36	4	9	.36
CAA	2	3	.15	2	2	.31	1	2	.69		--	
Multiple	3	5	.48	2	5	.13	3	6	.26	3	15	.18

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure E-7

Curricula:

Immediate and Long-Term Effects for Global Cognitive Measure

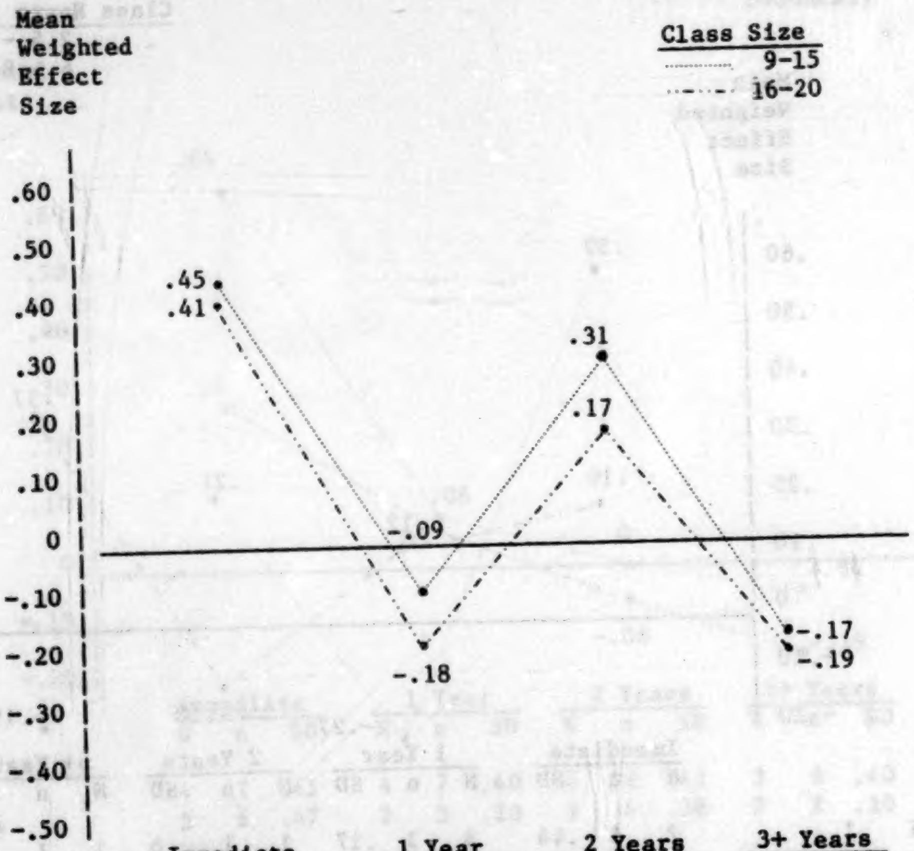


	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Oper.	3	4	.51	3	4	.42	2	3	.46	1	1	0
Mont.	1	1	0	1	1	0	1	1	0	1	1	0
Trad.	5	5	.36	4	4	.18	3	5	.33	1	1	0
Cog.	1	1	0	1	1	0	1	1	0	1	1	0

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure E-8

Class Size:
Immediate and Long-Term Effects for Global Cognitive Measure

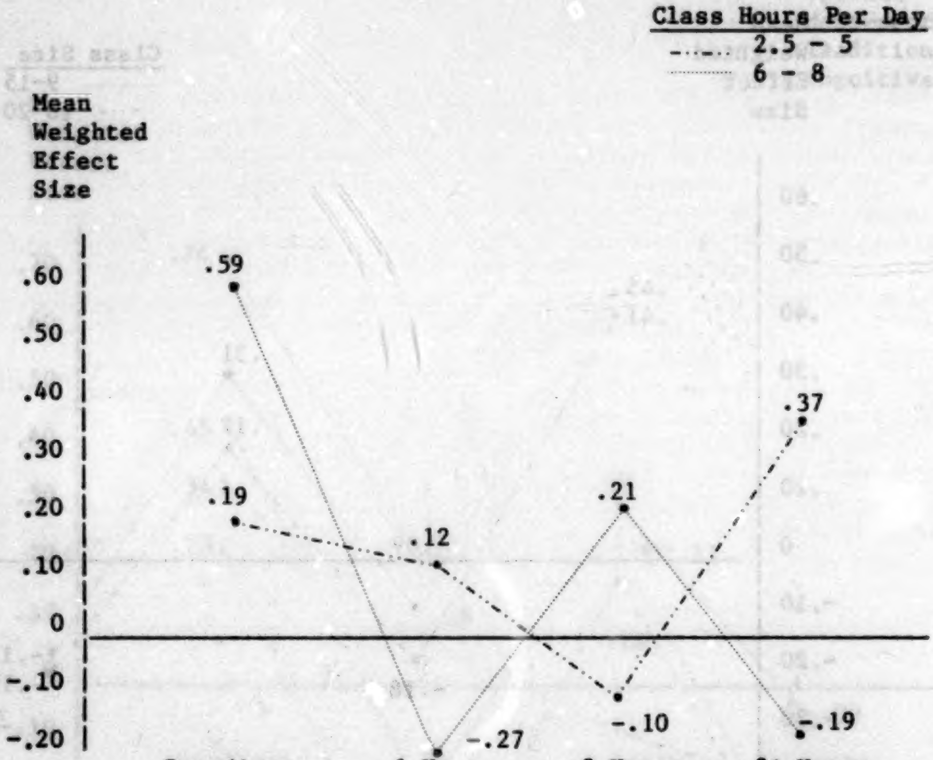


	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
9-15	1	1	0	1	1	0	1	1	0	1	1	0
16-20	2	4	.30	4	2	.32	1	3	.44	2	4	.28

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure E-9

Class Hours Per Day:
Immediate and Long-Term Effects on Global Cognitive Measure

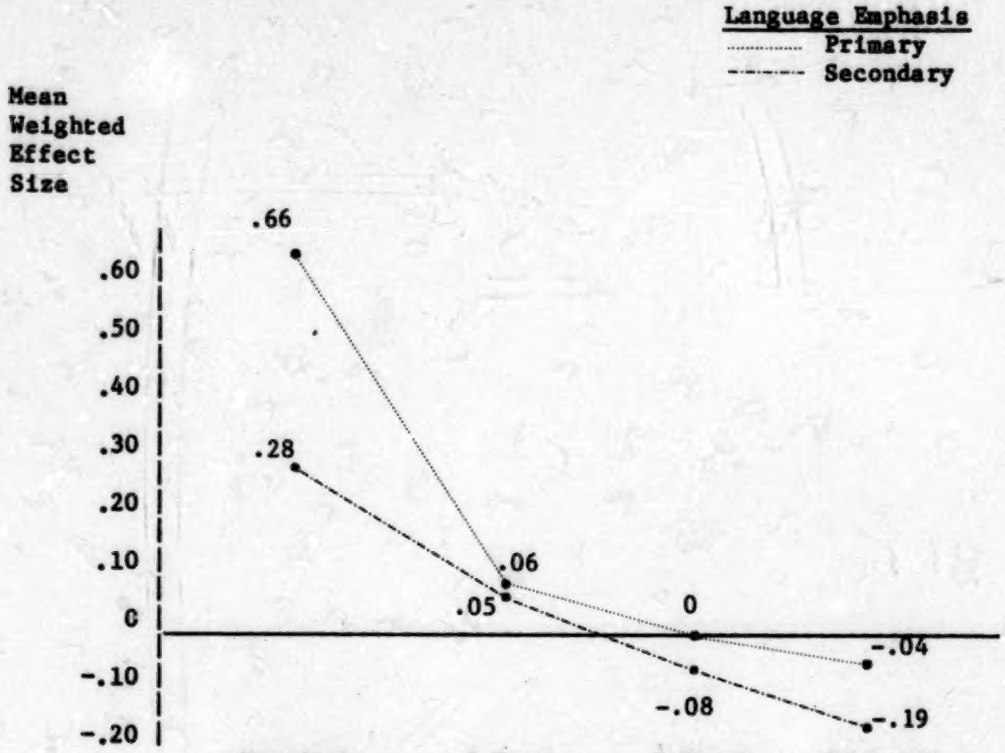


	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
2.5-5	2	3	.44	3	3	.17	1	1	0	1	1	0
6-8	2	6	.45	1	4	.16	1	4	.40	1	4	.23

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

Figure E-10

Language Interaction Emphasis: Immediate and Long-Term Effects for Global Cognitive Measure



	Immediate			1 Year			2 Years			3+ Years		
	N	n	SD	N	n	SD	N	n	SD	N	n	SD
Primary	4	7	.41	4	7	.40	4	8	.47	3	5	.40
Secondary	5	6	.47	3	3	.20	3	4	.38	2	2	.10

N = Number of Studies
n = Number of Weighted Effect Sizes
SD = Standard Deviation

☆U.S. GOVERNMENT PRINTING OFFICE: 1985 461 307 35 9[illegible]3

U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Washington, D.C. 20201

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

FOURTH CLASS MAIL
POSTAGE & FEES PAID
US DHHS
WASHINGTON, D. C.
PERMIT No. G-98

DHHS Publication No. (OHDS) 85-31193